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Rail Road News.

Baltimore and Ohio Railroad.

At the meeting of the Board of Managers of this Company, held in Baltimore on Wednesday last week, the remainder of the road from Tygart's Valley Bridge to Wheeling, was let to contractors, with the exception of about thirty-five miles, which await the decision of arbitrators, to be made on or before the first of November next. The bidding was spirited, and the work will be commenced without delay.

The whole line of the work may be said to be in the hands of contractors, and about 2500 men are employed. The Baltimore Patriot says:

Considerable progress has been already made upon all the heavy sections; several of medium class are very nearly, and some entirely finished. The great tunnel is progressing steadily, and with every prospect of completion within the time limited by the Engineer.

The laying down of the iron will commence early next spring. The road to the mouth of Savage may be expected to be open about June, and the track will thence be pushed forward without interruption, and in an unbroken line until it reaches Wheeling.

The iron is now arriving in large quantities at the Company's wharf at Locust point, upwards of 2000 tons having been received in the last month. This iron is of excellent manufacture, and will compare favorably, as to cost, with any that has been imported. The recent sale of the Company's bonds, which were given in payment for this iron, has been made in London by the Messrs. Barings, at 108 per cent., a gratifying evidence of the confidence which capitalists have in the work and the gentlemen who have charge of it.

The North Carolina Central Railroad.

The Wilmington papers, state that the stock of the North Carolina Central Railroad has all been subscribed for, and five per cent., the first instalment required by the charter, paid in on the whole amount of one million of dollars. The State now comes in for two millions. The fact of the completion of the subscription was ascertained at the meeting of the General Commissioners at Chapel Hill, a short time since.

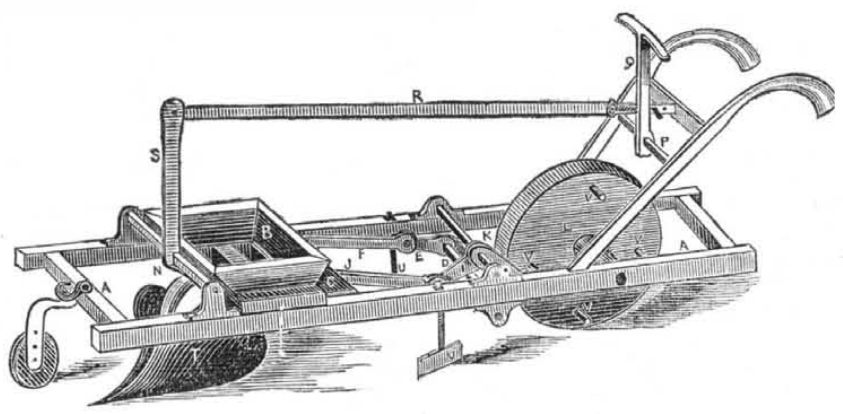
A meeting of stockholders, for organization, &c., has been called for the 11th of July, at Salisbury, (according to the act of incorporation.)

This road will constitute an important link in the great Southern line. It is to connect with the Petersburg and Weldon Railroad, pass by Raleigh and terminate at Charlotte, Mecklenburg County—to which point a railroad has already been completed from Columbia, South Carolina.

Dangerous Pleasures.

Indulging in dangerous pleasures, saith a Burmese proverb, is like licking honey from a knife and cutting the tongue with the edge.—The Arabs of the desert use their scimetars as looking glasses.

GROSHON'S PATENT CORN PLANTER.

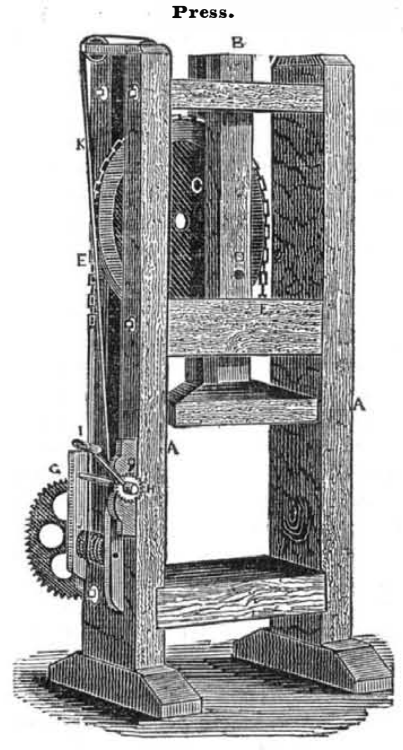


This machine is the invention of Mr. John P. Groshon, of Yonkers, Westchester County, N. Y., and for which letters patent were granted on the 19th of last March. This figure is a perspective view. A is the frame; B is the hopper; C is the slide of it, and it is provided with holes for letting out the grain; D is a shaft mounted on bearings in the frame; E is the lever part of this shaft: it is jointed by a pin to the rod, F, which is connected to the slide, for the purpose of uncovering the openings. K is another shaft, mounted on the frame, and carrying a lever, I, which is jointed by a pin to the connecting rod, J, which connects it with the same slide, C, for the purpose of closing the openings. L is a wheel carrying any convenient number of studs, V V, on it, for striking the butts of the levers, E and I, which project behind, the studs acting upon them like cams on the treddles of a loom, to operate the slides and open and close the seed passages in the bottom of the hopper, to deposit the seed. Thus the number of depositesites, or hills, can be increased or diminished by the number of studs set in around the sides of the wheel. T is the furrower to open the drill, and there is a scraper set angularly on each side (one is shown on this side) which follows after and covers up the seed.

There is another provision in this "seed planter," viz., to shut off the supply of grain at pleasure, while the wheel may be travelling, such as crossing a "head ridge." This is done by another slide below, C, fixed on a shaft, N, in front, and operated by the lever, S K, which is actuated by the handle, Q, on the axis, P, which presses on a pin on the end of the lever, R, ready at the hand of the operator. The butts of the levers which actuate the slides, are so made, that when the wheel is reversed, they are thrown up like loose joints and do not actuate the slides at all. This is the leading feature, and a good one it is, of this invention. This seed planter is very simple; it answers every purpose required of a seed planter, consequently it is a good one.

Any communication addressed, post-paid, to Mr. Groshon, will meet with attention.

Brown's Eccentric Progressive Power Press.



We here present a prospective view of the Patented Eccentric Progressive Pully Power Press, invented by the Patentee, Mr. A. D. Brown of Clinton, Georgia. We have presented engravings of this press before as applied to the pressing of cotton. This view represents the principle applied to standing presses for Bookbinders, Printers, Cloth Pressing, Paper Mills, &c., or for any other business where a snug powerful press is required. This one, with a single crank, multiplies the power 400 times, and two cranks of course would double the power, and by enlarging the wheel any amount of power, required may be obtained. By referring to the other engraving published in the Scientific American, on the 9th of last March, a very complete idea of the principle will be obtained. We make this statement for others to refer, as we like to economise our space and present as few repetitions as possible. Suffice it, first of all, to say, this press has one peculiar beauty: it has little power and the greatest speed at the beginning of the act of compression, when great speed and little power are needed, and as the resistance to the compressing power increases, the power to compress increases in the same ratio.

A is the frame; B is the pressing follower; C is the eccentric pulley or lever power secured on its eccentric axle, D; the pulley is retained between the two sides of the follower; E is the chain passing over the pulley and down around the axle, J, being attached to a rope to go round the axle. I is the crank of the pinion, H, which, by a pinion on the other side, gears into G, to increase the power by driving the axle, J; K is the take-up cord, F, is a brace of the frame. The hole in the centre of the pulley is of no account, only if it was for a very large one, it will assist it to be moved. With a little modification, this can be made a first rate press for pressing tobacco. Its simplicity is one of its highest recommendations. Its merits are of no common character. It will soon be universally used for a great number of purposes, for which more complex presses are now employed. Any communication, post paid, addressed to Mr. Brown, will be promptly answered.

The steamer Melodeon lately made a trip on the Mississippi a distance of 278 miles in 10 hours. This was at the average rate of 27 miles per hour.

Useful Receipts.

Poison Balls for Rats and Roaches, and other Vermin.

Mr. Editor: I send you the following receipt, which I have used with some success:

"Put a drachm of phosphorus in a bottle along with two ounces of water; cork it, and plunge it in a vessel of boiling water till the phosphorus is dissolved; then pour it into a mortar along with three ounces of lard, and rub it briskly, adding some water, about half a pound of flour and two ounces of sugar. The whole is made into a paste and divided into balls about the size of marbles. This is laid down on the floor or shelves for rats, cockroaches and other vermin, who eat and are destroyed. For rats, I have found cheese to be better than sugar, and tallow better than lard. The cockroaches are fond of any thing sweet, hence sugar is a bait for them. Potatoes will answer as well as the flour. These balls should be laid down at night, and carefully lifted in the morning, taking care not to let any be touched by a child. They should be locked up through the day." R. C.

To Purify Covered Wells from Foul Air.

It is well known that many accidents take place by persons going down into wells for cleaning them, by the noxious gas in such places. To remove the gas before descent is made into any well or damp pit, a quantity of burned but unslacked lime should be thrown down. This, when it comes in contact with whatever water is below, sets free a great amount of heat in the water and lime, which rushes upward, carrying all the deleterious gases with it; after which, descent may be made with perfect safety.

Preserving Tobacco.

If tobacco leaves are salted and hung up to dry, it is said they will keep in perfectly good order for years. It is better to dry tobacco leaves in the shade than any where else. To preserve the flavor of fine tobacco, it should be carried into a shade as soon as cut and suspended thinly like paper, on cords stretched across from side to side. The slower it is dried, so much the better for flavor, and mildness of taste.

The Passions of the Mind.

The passions are to our intellectual faculties what the salt is to the bread; they season it and give it flavor. The mind is the yeast which vivifies and elevates the mass, while the world is the oven which receives the whole and fit it for use.

To Make Good Current Wine.

One quart of current juice; two quarts of water (cold;) three lbs. of brown sugar; put in a cask with the bung out, or in very loose, so as to allow it to ferment; when the sound from fermentation ceases then make the cask tight; leave it for a year, and then bottle it.

Narcotics.

Different narcotics affect the system differently. Opium acts directly on the brain.—Nightshade producess congestion similar to what takes place by a ligature about the neck, preventing the return of the venous blood to the head. The Italian ladies made use of it as an antidote to a florid complexion—the effect being to produce paleness. The medical name, "Bella Donna," is taken from this circumstance. Tobacco affects the nervous system generally, setting people a shaking and a quaking, puffing and snuffing.

Edwin Forrest, the tragedian, knocked down and cowhided N. P. Willis, the poet, last Monday evening, at the Washington Parade Ground. This was scandalous.

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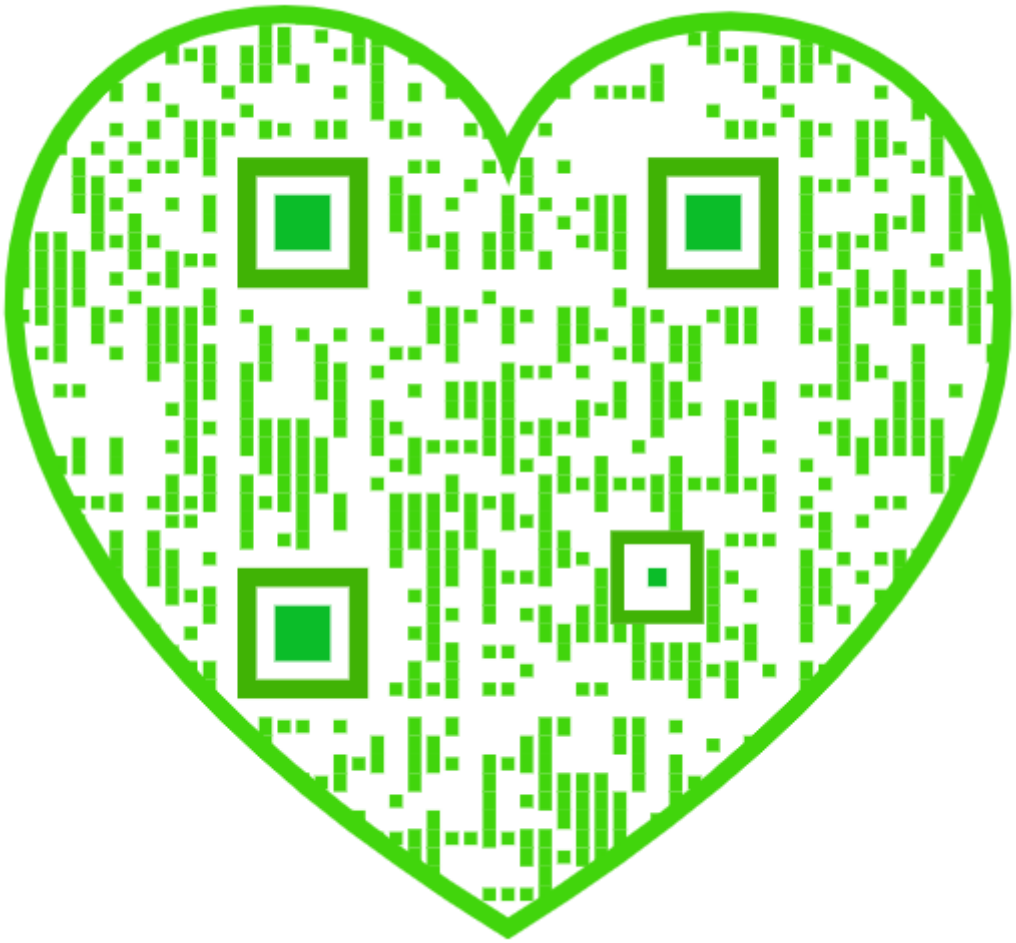

Miscellaneous.

Indian Numerals.

Some singular developements are detailed by the National Intelligencer, which appear in the inquiries which are making under the authority of Congress at the Indian Bureau. It is found that while we are paying large annuities to many of the tribes who are still in the mere hunter and barbaric state, these tribes do not comprehend the simplest rules of addition and division. None of them have the slightest idea of mental arithmetic. They cannot multiply or divide a figure. And they have no clear appreciation of even moderate sums, of say five or ten thousand dollars, unless the pieces of coin are spread out before them.—But for all large sums they are in the dark, and are entirely unable to understand a mental divisor. Some of them cannot count a thousand. Bundles of small sticks tied up, are the ordinary mode of counting.

Their arithmetical root is clearly decimal.—Five fingers on each hand, held up, is a decimal; five toes on each foot, appealed to, converts this into a vingtigesimal. There are separate words for the digits, from one to ten.—*Mi-tes-wa.* The nine former are then added after the latter to nineteen. Twenty is donoted by a new term *mi-tun-a.* The digits from one to nine are then added to this word till twenty-nine. Thirty is compound, meaning three tens; forty four tens, and so on, to ninety-nine. One hundred is a new term in *twank.* The terms one, two, three, &c., &c., uttered before this, render the account exact to one thousand, which is called a *great twank,* and the same prefixture of the names for the digits can be repeated to ten thousand. This is the Algonquia mode. But the pieces of money, or things of any kind, must be shown, to enable them to understand the sum. There is absolutely no mental appreciation of sums. This denotes how carefully, how simply and pains takingly money transactions should be conducted with the Indians, and how liable they are to misunderstand offers made for their lands, and to misapprehensions or deception.

The more advanced tribes are better arithmeticians. They have profited by education, and more by intermixture of races. The Choctaws have native terms to ten hundred thousand. By adopting, at this point, the English terms "million" and "billion," with a pecular orthography, they can compute higher. The agent for the Cherokees report original terms for very high sums—which, however, there is reason to believe, not one in a thousand of the common people understand.

The Bird and the Snake.

The Mobile Herald, of the 21st ult., relates the following: "Two gentlemen of our acquaintance, of unimpeachable veracity, witnessed a scene the other day worth recording. They observed at a distance of some thirty feet from them, very strange and unaccountable conduct on the part of a bird, commonly called the 'cow bird,' resembling in color and shape the mocking bird of this region, though somewhat smaller. One watching it narrowly they discovered that it was engaged in a conflict with a snake some eighteen or twenty inches in length. In a few moments the bird was victorious. It suddenly caught the snake by the head, and, flying with it to an old pine tree, succeeded, after a hard struggle, in fastening it to a pointed splinter. Thus pinioned, the snake was entirely helpless. The bird watched it for a moment with apparently the utmost complacency, and then continued its repast, devouring within ten or fifteen minutes three-fourths of the length of the snake."

[This *is* a snake story, and no mistake!

Relics of Franklin.

An original portrait of Benjamin Franklin sold at auction in Boston, a few days since, for three hundred dollars. Twenty-five pieces of China ware, which formely belonged to Franklin, were next offered. One large cake plate sold for thirteen dollars, and a bowl, with a large piece broken out of the rim, for five dollars and a half. An attempt was made to sell the tea-plates, but as only seventy-five cents were bid for a cracked one, the sale was stopped—a much larger price having been offered at private sale for the lot.

That Mummy.

Well, our Boston scientific friends have paid the piper in the $5 ticket, to see Gliddon's mummy unrolled. It was a most wonderful mummy that—the virgin priestess of a great priest who dwelt in Egypt 1900 years before our blessed era. Well, it was worrh $5 to see such a character revealed from amid her swaddling bands of linen and what not. How important was the subject, how intricate the wrappers!—more mysterious than a Boston one truly. Three days—yes, three long days were occupied in the unrolling process. How eloquently Gliddon discoursed on the subject—the age, the glowing virgin beauty of the within, as she long, long ago used to sing by the banks of the Nile. We can imagine the interest tbat was excited in the countenances of that intelligent and select audience, as Gliddon approached the last wrapper, and exclaimed, "Behold the hour is at hand!" There she was, the ancient maiden of the Delta, the long hid, the long desired to be gazed upon; but alas! for the changes of time upon the human race, she was a *man*—yes, a *man*! Some felt shockingly disappointed; but why should they? Perhaps it was no mistake at all. The sexes may now be misunderstood by us. The Egyptian women may have been men. There was Semiramis and the old Amazons. That is surely some evidence to prove this assertion. We therefore think that Mr. Gliddon had no right to say, that a mistake happened in the mummy family.

Decay of Peach Trees.

A singular fact and one worthy of being recorded, was mentioned a few days since by Mr. Alexander Duke, of Albermarle. He stated, that whilst on a visit to his neighbor, his attention was called to a large orchard, every tree in which had been totally destroyed by the ravages of the worm with the exception of three; and these three were probably the most thrifty and flourishing peach trees he ever saw. The only cause of their superiority known to his host, was an experiment made in consequence of observing that parts of worm-eaten timber, into which nails had been driven, were generally sound. When his trees were about a year old, he had selected three of them and driven a ten-penny nail through the body as near the ground as possible; whilst the ballance of the orchard had gradually failed and finally yielded entirely to the ravages of the worms, these three trees, selected at random, treated precisely in the same manner, with the exception of the nailing, had always been vigorous and healthy, furnishing him at that very period with the greatest profussion of the most luscious fruit. It is supposed that the salt of iron afforded by the nail is offensive to the worm, whilst it is harmless or even beneficial to the tree.—[Southern Planter.

[As the decay of peach trees is a source of great trouble to our pomological friends, we insert the above hoping it may prove to be a correct remedy for the decay of the peach tree. It can easily be tried.

Asphaltum of New Brunswick.

We have received a specimen of asphaltum from the County of Albert, in the Province of New Brunswick. It is the material from which Prof. Gesner obtains his new kerosene light, and for the use of which, in the manufacture of gas and a peculiar kind of retort rerequired for its ready productions, he has obtained a patent in the United States and in other countries. This new and very beautiful material has been analyzed by Doctor Chilton, Doctor Jackson, C. T. Harris and others, who had found that it yields a much greater quantity of volatile matter than the best description of gas coal, and that the gas possesses very high illuminating powers, although it is said to be in some respects inferior for the above purpose to the asphalt of the great pitch lake of Trimdad. We understand that the Professor has commenced operations at the establishment of Messrs. Walworth Nason & Guild, John st., where the works and the light are open to inspection and scrutiny.

We will notice this again at greater length.

Fulton and John Fitch.

An Association has been organized to build a monument on the Ohio, to the memory of Fulton. It seems to us that no person, who is acquainted with the history of John Fitch, can regard this move with the proper favor, while the ill-fated genius whose successful efforts on the Deleware preceded those of Fulton, ten years, lies neglected—his last prayer, that his bones might be buried among those knolls of the Ohio, which would one day reverberate with the pantings of his own invention—forgotten. What has become of the design, originated three years since, to raise a monument to Fitch?—[St. Louis Reveille.

[That is right, Mr. Reveille. The Hudson is the river where Fulton's monument should be executed. The unfortunate but ingenious John Fitch should have one on the Ohio.

Telegraph Between England and Russia.

The Emperor of Russia has decided on placing St. Petersburgh in Telegraphic communication with Vienna and Berlin, by means of electric telegraph, which will also pass through Warsaw and Posen. The wires are now being laid down between Berlin and St. Petersburg and the Black Sea. When the continuous line of wire, an important part of which is now being sunk submarinely between Dover and Calais, is completed in connection with the continent, a person in London may hold almost instant communication with another in Russia.

Southern Machine Shop.

We learn from one of our Southern correspondents that Messrs. Poe & Co., have in course of construction at Augusta, Geo, a machine shop 100 feet long, 50 feet wide and 3 stories high, together with additional buildings for smith shop and foundry, which are intended for the manufacture of cotton machinery, mill work &c. The tools are mostly from the manufactory of Messrs Gay, Silven & Co., No. Chelmsford, Mass. The projectors of this establishment intend to have a good shop and to turn out as good work as any other in the country, which we trust they may be fully able to realize. The rapid increase of manufacturing through the South and South-west calls for the introduction of the machine shop, and we are gratified to preceive this enterprise coming into operation.

Notice

Our readers are referred to the advertisement of Messrs. Sherry & Byram, in another column. We are prepared to state that as a practical mechanic, Mr. Byram has no superior in this country, and the experience which he has had in this peculiar branch fully establishes his reputation as one of the first clock makers in the world. He is also the inventor of recent valuable improvements in the pendulum, for which he is about to secure a patent.

Wearing away of a Shoal.

The Savannah, Ga., Republican, of the 10th inst. mentions that the Shoal known as the "Wrecks," about two miles from that city, is gradually disappearing. In confirmation of this, it states that the British barque Sir Hen-Pottinger had loaded at town to a draft of sixteen feet two inches, and proceeded directly to sea without detention, on an ordinary spring tide. Since that time a large number of vessels have loaded to a draft of over fifteen feet, and passed over without difficulty; and on Saturday last the ship Georgia went down with a draft of sixteen feet four inches, two days before the highest spring tide.

A New Propeller.

A new Steamer named the Constitution has been built in Philadelphia, fitted with machinery and Loper's Propeller, which has made astonishing speed, viz., 13 miles per hour.—Her boilers are the first made of so large a size, on Capt. Loper's patent combination of perpendicular tubes and water tables, and their performance proved most conclusively their superiority over those of the ordinary construction. So perfect was the combustion of the coal that not a parcticle of cinders was thrown from the somke pipe, and the boat travelled a distance of twelve miles without having a shovel full of coal thrown into the furnaces. Her engines also worked admirably. With but 24 lbs. of steam to the square inch, the propeller made fifty-four revolutions in a minute and yet worked so easily as scarcely to be perceptible. This boat is warranted to run at least ten miles an hour at sea with not more than five tons of coal in the twenty-four hours. She has been sold by her builders, Messrs. R. F. Loper and Lincoln & Co., to Lieutenant S. B. Bissell, of the United States Navy, who is to command her in the California trade, being designed to carry passengers between Panama and San Francisco.

New Use for Opera Glasses.

These useful and pleasing articles are put to a use in New England which was not probably contemplated by their European manufacturers. The most valuable and powerful glasses are sold for whale ships, for use at the mast head, in searching for whales. They are more powerful than the most valuable spy glass, while their small size enables the sailor to use them with greater convenience, and much less fatigue. The glasses used for this purpose cost $25 to $30 each, and have lenses of great power.

Gigantic Reptile.

At a recent meeting of the Royal Institution in London, Prof. Owen exhibited among other fossils the arm bone of an extinct species of Lizard, which was four and a half feet long and thirty-two inches in circumference. Prof. O. remarked that the animal to which this belonged must have been 90 feet in length.

Death of Miss Jane Porter.

The English papers by the Atlantic announce the death, on the 23d ult., of this lady, at the residence of her brother, Dr. W. O. Porter, in Bristol. The lady was in her 74th year. Her name will be familiar to all as the author of the "Scottish Chiefs," and other novels and romances. The immediate cause of her death was pulmonary appolexy. Her faculties were retained to the last.

We are often enquired of by our country subscribers anticipating a visit to this city, as to "which hotel we can recommend them to stop at." For the benefit of all interested, we would state that so far as we can judge, "Lovejoy's Hotel" is by far the most agreeable home, to be found in this city for a business man. It is under the efficient management of James S. Libby, Esq., whose attention to guests has become familiar to nearly the whole country, for we do not hesitate to say that his house accommodates more guests in 12 months than any in America, and but one opinion exists in reference to it. The prices are reasonable and the accommodations ample and of a superior character.

Washington Irving, for a long series of years, enjoyed the privilege of copyright in England, but within the few past months, such has been the indignation with which American obduracy on the subject of an international copy-right law has been regarded in England, this privilege no longer exists, either for him or others of our countrymen. A Mr. Bohn is pirating his and other American writers' works by wholesale, and selling them at a shilling a volume.

A man has started for California by the overland route, with his effects in a "wheel-barrow." He is spoken of in the western papers, and his doings chronicled under the head of "the wheel-barrow emigrant." When last heard from he was beyond New Fort Kearney, three hundred miles from his starting point rolling on in fine health and spirits.

Fruit will be very abundant in Massachusetts this season. Apple trees have not made such a display of blossoms for several years, and cherries, pears, peaches and plums also give rich promise. Strawberries, currant and other small fruits are all doing well, and we in the city may expect soon to be supplied "at a reasonable rate."

Another Mathematical Wonder has sprung up in Pittsburgh in a boy ten years of age, named Theodore Hartman, who will respond to the most difficult arithmetical questions with a few moments mental operation.

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Philosophy of Mechanics.

Being an answer to a series of articles published in the Scientific American, commencing on page 67, termed "Important Discovery that may lead to improvements of great value."

No. 4.

Having shown that the author of the articles on motion had made a fundamental mistake in respect to the composition of forces (inertia, &c), and having touched upon the form of least resistance—the best way of shaping vessels, I will now briefly allude to his last articles (pages 275 and 283), whereby he is to cross the Atlantic in five days.

And now, after all that he has written upon the subject, although he presents some good ideas, the whole impractibility of an impracticable theory is at once made plain, for he arrives at the conclusion that a vessel 960 feet long, 30 feet deep, and 15 feet of the greatest width, would cross the ocean in less than five days. Who in the name of wisdom, that ever made a voyage to sea, would venture in such a craft ? This long lean vessel, in length three times longer than Trinity Church steeple, and in width only five steps across deck, would not get three miles beyond Sandy Hook in a gale, until it was hog-backed. The only way to make such a vessel strong enough, would be to cut down six Oregon pines, 160 feet long, gouge them out canoe-fashion, splice them together and make this marine *long tom* out of them to cross the Atlantic at the rate of 28 miles per hour. Well, to come to an end with this "important discovery," I have just to say, that our splendid steamers on the North River can make as good time as that, and I would far rather trust myself in the Alida to cross the Atlantic, than in this 960 feet ship. Any person has but to read his last articles to be convinced of one thing, viz., "that persons should never write about things they don't understand," for he says, "the large waves might therefore rise entirely over the ends without raising or straining the vessel in the least." In 1836 a vessel was built away up at Albany, by one who had never been to sea, upon the principle of the above, that is, to dash through the seas like a dolphin. It came down to New York and performed the feat as soon as it got out of the Narrows, by dashing down to the bottom.

There is no subject which has engaged more attention than that of ship building, and Mr. Beaufoy was occupied for five years (1793 to 1798) in making experiments upon "the solid of least resistance." His book is very scientific and contains 700 pages, valueless and dull to the practical man, and as useless as this "important discovery." The author of it in one of his articles said, "if philosophers knew the theory of motion, why did they not lay down rules for the forming of vessels. I have shown that this subject engaged the attention of Newton, and scores of books have been written on the subject. The discussion of this subject, for want of room, could not be conducted through the columns of a newspaper. It would require volumes to discuss it. A few years ago a great work was published on the subject by J. Scott Russell, and the work which Mr. Griffiths of New York is now publishing goes over the whole field.

Naval architecture I hold to be the grandest art in the world, and one of the most difficult to comprehend in all its details. We only can look for advancement in this art to those who unite theory with practice, who are patient observers of the physical facts which experience brings to their view, and have sufficient science to account for, and penetration to discover their application. Theory and practice constitute art. We cannot look for improvements to men who may bring forward some geometrical or mechanical series of curved lines for a ship's body, deducing the best form for a ship from these, as this has been often done, and may be performed by a mere dabbler in the art. A number of writers on this subject have contended like the author of the articles in question, that the path of our planet was the true form to compete with all others in attaining to the greatest speed, but I have never seen one of their fine spun theories, which treated the matter correctly, that is taking into consideration that a ship is propelled being partly submerged in a non-elastic fluid which buoys and sustains it. In 1838 a steamboat was built on the North River upon two metal hollow double cones, as being the best form of least resistance. Every body has known the result. It was a decided failure. Neither the seaman, however great his experience nor the unpractical theorist are qualified to judge correctly of the qualities of construction for a sailing vessel. It is but a few years ago since a "life boat" was exhibited in New York, executed by one who had merely reasoned on the subject; and before a fair trial was made of its merits, his model had been examined and pronounced by a number of old sea captains (who gave certificates of their opinions) to be the best life boat, in principle, they had ever seen,—that it could never be turned over nor swamped in the most dangerous surf. When this boat was tried the first feat it performed was a somerset—it turned keel up. It was constructed without any solid idea of the lines of floatation.

It may be stated in objection to what I have said, that I have not disproved the assertion that a vessel built of the form set forth by the author of the articles in question, is the best, but in answer to this I say, has he proved that his ship would cross the atlantic in five, six, seven, ten, or twenty days ? No such thing. He has adduced no proof that he could make it sail at all, much less making it sail faster than any other.

I have plainly shown that he was not properly acquainted with the "philosophy of mechanics," that he was ignorant of what others had done in respect to the best form of sailing vessels. And now, it may be said, I have adduced no figures to disprove what he has said. This is true, but I have adduced plenty of facts, and they are the strongest kind of figures. As I have said before, it would require volumes to go into the details of ship building, and give the proper figures, with the lines of measurement, for the best form of vessels. But in respect to this new theory which has been set forth, it requires no learning to show its error, although it may to advance words against it. The most uncultivated have correct ideas of right and wrong—grace and beauty—although they cannot give a reason for their feelings or tastes; and so it is with this theory in question : when we see a lame man, we say he is deformed, but what reason have we to say a crooked legged man is more deformed than a straight limbed man. No philosophical reason is required—the fact is self-evident to all, and so it is with this theory, and the way by which the author of it can satisfy himself, is to build a vessel on his principle, using the fourth of a foot measurement to his proportions, when he will have a steamboat 280 feet long and 3 feet 9 inches wide—a width, indeed, incapable of receiving a cylinder of an engine capable of driving one of our ferry boats.

(To be Continued.)

Parker's Reaction Water Wheels.

ONEONTA, June 8th, 1850.

MR. EDITOR: I notice in your paper of today, that the Committee on Patents have reported favorably to the extension of Z. Parker's patent on water wheels.

I think if the Committee were rightly informed they would not have so reported, and I hope for the good of community it will not be extended. Mr. Parker is no doubt entitled to, and receives, much credit for his improvements in water wheels; but he is only an improver, instead of an inventor of the reaction water wheels. They have been known and used for more than sixty years, and were described in Evans's Millwright's Guide of 1795, and have been used in various forms, in various parts of the United States, quite extensively since that time. Parker by his claim covers, I think, no new principle of operation, merely an improvement in construction. He covers with his claim the application of the scroll case to reaction wheels; but I am confident that that kind of case was in use more than forty years ago. Two days since I received a communication from an old millwright, nearly seventy years of age, who informs me that the cases which Parker claims as giving "a circular, spiral motion," were in use in 1801, which fact he can substantiate by many living witnesses. This, together with many others of a like character, are from a reliable source; which fact, together with the fact that wheels of the reaction kind, all operating upon the same principle, (according to the decision of the Franklin Institute, which, by the way, I think incorrect,) are in so universal use, that to extend a patent of that character would be altogether wrong. It cannot be possible that Parker presses his claims for an extension of his patent, upon the ground solely that he has not received a fair compensation for the same. Twenty-one years ought to suffice, I think, for any patent, particularly for one of that kind, when his agents are collecting at this time for using more than forty different kinds of water wheels, (most of which have been patented by our Government,) in all parts of the country. They have exacted and received $25, and $40 a mill in several instances in this vicinity, which is certainly an outrageous charge for a patent right on a mill on which they have not feed an agent, or been to any trouble in putting up a wheel, even allowing the wheels to be an infringement, which I think is not the case. Who can tell whether any of the thirty patentees who have received patents on reaction water wheels, ever saw a Parker wheel, but instead of making an improvement on his wheel, have been improving on a reaction wheel which was in use before Parker was born. I conceive that Parker's claim touches no wheel but such as discharge their water upon the outer edge or rims; while many of the wheels which his agents call infringements, discharge the water through them in the direction of the shaft upon a curved bucket.

If Parker was entitled to a patent on his wheel in 1829, which he himself owns in his letter published in Vol. 3, No. 48, of your paper, was but an improvement on wheels then in use, others may be entitled to at least some credit for their improvements. Some of the patentees of wheels were I not acquainted with wheels of any kind. N. Sohnson, who obtained letters patent May, 1838, was a tailor by trade, and made the invention of his wheel while following that occupation.

That Parker should receive a fair compensation for his improvement, is certain; and it is equally certain that other men live, and should at least enjoy a chance to live, notwithstanding his letters patent. That he should attempt to monopolize all improvements on water wheels as his own, made for the last twenty-one years, and wish to continue to, hardly agrees with the golden rule, and certainly does not agree with our notions of the privileges of a republican government. He was an improver upon an old and known wheel; others are improvers upon the same, and with him are equally entitled, in our opinion, to the benefits of their improvements.

Our patent system is wrong. When at the patent office, with all the facilities which are there had to ascertain the novelty of an invention or improvement, they see fit to grant a patent, that ought to be an end of the matter. Such continued litigation in a high Court not only is attended with trouble and loss to patentees, but makes the community afraid to buy a newly patented article, for fear of being called on and obliged to pay for the use of the thing over and over again.

I am of the opinion, that government should pay every successful inventor a fair compensation for his improvement, if of value, and make the same public property at once. A corps of scientific and practical examiners at Washington, should decide upon its utility and pay the inventor or his representatives for the same, out of a fund created for that purpose, and make the same public at once. Such a system would do away with patent litigation, do away with the extra price for a new patent article, tend to forward invention and improvement by making persons immediately acquainted with every thing new and useful, prevent imposition by selling new patented articles which are no better than the old or wholly worthless, and would be thoroughly republican, free from both monopoly and aristocracy.

I conceive it to be your duty, through the influence and extensive circulation of your valuable paper, to prevent if possible the extension of the patent in question, together with all others where the patentee has been rewarded for his improvement and the community will be injured by their extension. The country is much indebted to you, (for which it is grateful,) for the decided stand you took against the extension of the patent on J. Wood's Cast Plow, and we think that you were, to a great extent, the cause of its failure, and this is another opportunity to serve the public successfully, and with its entire approbation.

Respectfully yours,

H. BAKER.

A New Discovery In Aerostation.

The London Times has an account of the ascension in a balloon by Mr. Bell, a gentleman connected with the medical profession, who has decidedly achieved a new discovery in the science of ærostation—that of controlling, directing or steering a ballon. It says:

"On Friday evening the appearence of a balloon of a singular form, traversing the metropolis, accasioned some speculation as to whether the frail car, from its oscillating gyrations, contained an animate or inanimate æronaut.

"The occupant was the gentleman above mentioned, who manœuvred his bark through the realmed air with a dexterity that puts all his contemporaries in the shade. Without endevoring minutely to describe this balloon, it may be briefly stated that it is of an elliptic shape, somewhat resembling in form the Spanish melon or vegetable marrow, manufactured of the finest silk, with netting of cordage and with a spring valve, constructed on an entirely new principle. It was estimated that the balloon would contain about 15,000 cubic feet of gas, its dimensions being 50 feet in length and 22 feet in diameter.

"The inflation, conducted with the greatest privacy, took place from the monster gasometer of the Phœnix Gas Works, (formely the Water Works,) in the Kenington-oval, under the direction of Mr. Munro, the superintendent. The ascent was made about six o' clock, and the descent took place in Essex, with a result favorable to the intrepid æronaut, but causing the loss of life of one who had bravely and kindly hastened to the rescue of a fellow creature in his perilous descent from the regions above. A man had his skull fractured by the grapnel while assisting to secure the balloon."

A New Colony in Georgia.

An agent for a London Emigration Company, has purchased about one hundred and fifty thousand acres of land in Irwin county, Georgia, for the purpose of getting it settled by English operatives and manufacturers. They are situated in a fine cotton-growing region supplied with water-power and timber. The construction of a railroad to the principal towns is designed.

[This we take from an exchange, and cannot vouch for its intergrity, but probability.

The Cotton Crop.

The Augusta Chronicle of Friday says:

"We conversed to-day with a gentleman who has just returned from a tour to the Cotton growing region, in the Southwestern part of the State, and he reports the appearance of the crop much worse than at this period last year, and in this section of the State appearances are equally as discouraging."

We are informed by a friend of ours from Texas, that the crops looked well there, and that it can raise cotton enough to supply the whole world.

Icebergs in the Atlantic.

Intelligence has been received at Lloyd's, from Newfoundland, of an enormous field of ice, upwards of one hundred and fifty miles in length, floating in the Atlantic, about the latitude of 46°. Several vessels were beset, and it is strongly feared that, as the ice lies in the direct track of vessels crossing the Atlantic, some serious disaster will be caused. This early drifting of ice from the Polar seas is considered extremely favorable to the expeditions in search of Sir John Franklin and his brave companions.

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New Inventions.

Lost Inventions.

It will be well for those who are revising the Patent Laws, to furnish some provisions applicable to the important question touching the re-discovery of lost or abandoned inventions.

What are the rights of him who re-invents a lost or abandoned art, machine or composition? Can he, for example, obtain a valid patent under our law, who shall re-invent the ancient mode of painting on glass?

The statute requires that the applicant for a patent should be "the *original and first* inventor" of the thing for which the patent is solicited.

Mr. Curtis, in his treatise on patents, discusses this question, but not very satisfactorily to me. He inclines to decide that a valid patent may be issued for the re-discovery of a lost art, on the ground that the *process*, (as in the case of glass-painting for example,) not the *thing produced*, is the essential portion of the thing patented. That in a case like that supposed, the *process* would be the principal element of the invention, is undeniable. Still, if the applicant's painted glass exactly resembles that of the ancients, would it not be a fair inference that it was manufactured by the *same process?* If so, how can the applicant be deemed "the first" inventor?

The law should be so framed as to protect the rights of re-inventors, without the aid of legal subtlety and hair splitting. O.

Interesting to Manufacturers.

MESSRS. EDITORS,—I have just returned from a visit to the York Manufacturing Co.'s establishmeni at Saco, Me., where I spent several days, highly gratifying to my mechanical taste. Among many pieces of machinery which I had the pleasure of inspecting and seeing operate, was a loom invented and patented by Gen. A. H. Boyd, the agent, with which I was particularly delighted. It is simple, in its construction and runs with admirable ease and smoothness, at the speed of 150 picks per minute. In all my acquaintance with looms (which has been by no means inconsiderable) I can truly say, that this loom runs with greater ease, both with respect to its own movable parts and to the web, at 150 picks than any loom I ever saw, at 110. This is, doubtless, the result of the peculiar manner in which the shuttle is thrown, and a provision for relieving the web of any increased tension by the springing of the harness, or the beat of the lay. Such is the construction of the shuttle motion, that a variation of 40 picks per inch produces no inconvenience respecting the regular boxing of the shuttle. But the peculiar excellency of this loom consists in its putting in precisely the same number of picks per inch throughout the web. This is the grand desideratum of the manufacturer to be able to produce a fabric, precisely to order, avoiding on the one hand the putting in more stock than is requisite, and on the other, of falling short of the stipulated number of picks in some few pieces of the order, and thus subjecting the whole lot to a discount. This is accomplished by a positive connection between the cloth beam and the yarn beam, so arranged as to be set to put in any given number of picks to the inch without the possibility of deviating, until changed by the operator. I watched the performance of this loom occasionally, day by day, for several days. The web was No. 16, 34 picks to the inch. The day before I left the loom turned out 70 yards during regular mill hours.

Yours respectfully, E. BURT.

Manchester, Conn., June 12, 1850.

[Mr. Burt is one of our oldest inventors in the power loom line, and is capable of judging correctly about the merits and demerits of any improvement, and like the Rev. Dr. Cartwright, the inventor of the power loom, belongs to the same profession.—ED.]

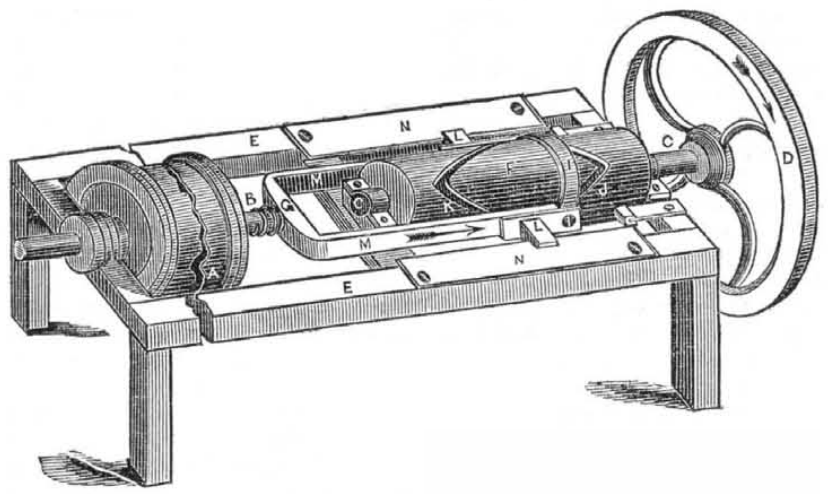
A Valuable Invention for Carding Wool.

The Bangor Whig says that a Mr. Charles T. Judkins, formely of that city, now resident in England, has succeeded in inventing a machine for cleansing wool, cotton, and other fibrous substances, which is said to be superior to anything of the kind heretofore invented, as it effectually separates the wool from all its connections and entanglements, and purifies it ready for working. All the factories in England and Scotland will soon be supplied with it, to the decided advantage of manufacturers, and to the advantage also of the wool growers in South America and elsewhere, particularly when liable to be mixed with dirt and filth, the market value of whose wool will be considerably enhanced.

Water Wheels.

We have received quite a number of communications on this subject, lately. One is published this week, containing views on the extension of Parker's patent. We will publish one next week favorable to Parker's wheel. It is a singular thing for us to perceive so many different and opposing opinions among practical millwrights, respecting the very nature of a water wheel, and above all, its mechanical principle.

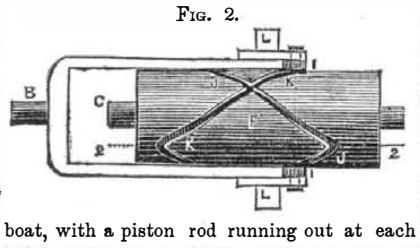
BROWN'S ANTI-CRANK ENGINE.---Figure 1.



This is the invention of Capt. C. F. Brown, of Warren, R. I., for which he has applied for a patent. The object of it is a simple substitute for the crank, whereby the reciprocating motion of the piston rod gives rotary motion to the driving shaft by means of two arms on the end of the piston rod, with friction rollers on their extremities, embracing a drum on the shaft, which has winding grooves around it, in which the friction rollers move and give rotary motion to the shaft, as the reciprocating rod moves backwards and forwards.

Figure 1 is a perspective view of this principle applied to a horizontal engine. Figure 2 is a top view of the drum, with the curved grooves and the arms of the piston rod. This engraving represents the cylinder of a steam engine placed horizontally athwart a steam-

FIG. 2.



boat, with a piston rod running out at each end, giving direct rotary motion, without cranks, to the paddle wheels. The cylinder, A, is represented broken to shorten the view. B is the piston rod; M M are two arms joined to the piston rod by a cross head. C C is the driving shaft with the wheel, D, on it, which will convey the idea of a paddle wheel; E E are the side bearings of the frame; N N are two metal bed plates, which act as guides to the slides, L L, on the arms of the piston rod. There are friction rolls on the extremity of the arms, which fit into the curved angulated grooves, J J and K K, made on the drum, F, which is secured on the shaft, C; I is a band which unites the arms together at the outer end. The dotted lines, 2 2, represent the points for reversing the motion—the return stroke from the one point giving motion in the one direction, the forward stroke giving motion to the shaft in the contrary direction. This will be understood by any person after a little reflection.

We believe this substitute for the crank to be far superior to many others, not even excepting "Pulley's" and a host of other devices, which have been employed for the same purpose.

Pocket Cooking Stove.

Mr. Soyer, late presiding genius over the cookeries of the far-famed Reformed Club, London, has just brought forward an invention—a cooking stove, with all its belongings, sufficently small to be carried in the pocket; a first-rate thing for a pic-nic party.—[London Times.

[We have seen such things before. It is to such improvements that we must look for a great increase of domestic comfort and consequently "social happiness." Too little attention is paid to small inventions.

Improvement in Printing.

The Boston Bee mentions an invention in printing by Mr. Josiah Warren, of Indiana, which more immediately concerns stereotyping and engraving, but which can be applied to all branches of the printing business. The metal used in this art costs about one tenth of the ordinary type metal; and in the process of stereotyping, it makes no difference, as regards the spaces, whether they are high or low. The art is very appropriately styled "Utopian Typography." And appears to be fixed in some typographical error.

A New Bridge.

Three weeks ago there appeared a claim on our list for a patent granted to Mr. J. Bevan, of this city, for an improvement on bridges. We had the pleasure, a few days ago of seeing a model of this bridge and have no hesitation in saying, that it is one of the best inventions of the day. Mr. Bevan was assistant engineer, under Mr. Jervis, on the Hudson River Rail Road, and while in that situation, F. Campbell, Esq., President of the Sectional Dock Co., saw the model and has become one of the proprietors of the patent. We intend to publish an engraving and full description of this bridge, either next week or the one after, and it will then speak for itself.

Chrome.

THE MINING OF CHROME.—A GROWING TRADE.—We are gratified to learn that the diggers of chrome, in Delaware county, are as busy as the gold diggers in California. One firm has upwards of one hundred hands employed, and are daily shipping the mineral to Baltimore. The proprietors of farms upon which it is found, receive three dollars per ton for washed chrome—and in the rock state it is sometimes worth five dollars per ton. The mineral is found in great abundance, at various points east of the Mine Ridge, in Lancashire, Chester and Delaware counties, and is all, or nearly all, shipped to Baltimore.

Chrome is not found in the metallic state; its oxyde is a green ochry substance which is generally intermixed with siliceous minerals. Chromic iron (which is the kind above alluded to) is sought after to obtain from it the chromic acid, for the preparation of the beautiful chrome yellow used in painting and dying. It is found in the Shetland Islands, in Styria, in some part of France, and elsewhere; but it is more plentiful in the region above mentioned than in any other place we have ever heard of.

Chromate of lead is the same substance as the chrome yellow artificially prepared. When crystalized, its color is of a deep red orange, and when powdered, orange yellow.

[The above is from the Miners' Journal, Pottsville. It is not over thirty years ago, we believe, since a vessel from Baltimore arrived in the river Clyde with a considerable quantity of chrome ore for ballast, which was considered of no more use than common cobble stones. At that time there was only one man in the city of Glasgow who knew its value, and he immediately bought up the ballast for a small consideration, made it into the bichromate of potash, and introduced the beautiful chrome yellow into the cotton printing and dying. The discovery was first made in France, and introduced by the same gentleman, himself a Frenchman, into Scotland. We will now describe some of the applications of chrome, as employed in the arts:

Chrome Paint.—To make chrome paint, the bichromate of potash is dissolved in water, at the rate of four parts, (ounces or pounds,) and to that is added three parts by weight of the acetate of lead. This makes a beautiful light yellow precipitate, as the chromic acid leaves the potash and combines with the lead. This is left to settle for some time, when the clear is poured off, and some clean water poured in, then left to settle, and the residue dried. It is afterwards ground and kept in tin vessels to be mixed with oil for house painting, or made into cakes with glue for draughtsmen. It is never used by skilful portrait painters, as it acquires a greenish hue by age. This is a very beautiful yellow for house and coach painting.

Chrome Yellow Dye.—Chrome is now used in the woolen dyeing very extensively, for coloring black. It is only a few years since its qualities for this purpose were discovered. We will however only describe its application to cotton. To ten pounds of yarn or cloth, which must be clean and have been boiled, 3 ounces of the bichromate of potash is dissolved and put in one vessel, and 9 ounces of sugar of lead in another—these vessels having as much water in them as will allow the cotton goods to be handled freely therein. They are first well handled in the lead solution for about eight minutes, then squeezed, shaken well out, and handled in the chrome liquor for about the same length of time. They are then squeezed out, dried, and run through the first lead solution, then washed in water and dried. With a greater amount of stuff, and handling the goods so as to give them two or three courses, a deeper color will be produced. If the nitrate of lead is used in the place of acetate, a redish yellow is produced. This is a most beautiful yellow. If lime is used along with the lead, a faster color is the result; but great care must be exercised to finish it in clean water, in which is some weak muriatic acid, and then wash it well.

Chrome Orange.—For 10 pounds of cotton, use 1 lb. 2 oz. of chrome, 2 lbs. brown sugar of lead, and 1 lb. of litharge. Boil the lead, and use a little lime amongst it; then dye in the same way as the yellow, only giving two dips, and using the stuff up at the two separate handlings. The goods should always be well aired out of the chrome; and for the orange, at the last dip, after the cotton has got the chrome, a vessel of clean lime water heated to 206° is kept ready, and the goods run through it, when they at once assume a beautiful orange color. Before they get the lime liquor, they look bad, striped, and brownish; but no sooner do they get the hot lime, than they look rich and evenly. These colors are easily dyed, and these receipts may be of use to many in the cotton region, who do considerable at domestic dying.

Green in cotton is also dyed, by first dyeing it blue with indigo, washing it, and then dyeing it a chrome yellow on the top of the blue.

The lucifer match trade of the United States is said to amount to more than $2,000,000 a year.

This is a great deal, but it is nothing to the "*locos.*"

Some sets of harness lately ordered in Paris for the Pacha of Egypt's state carriage, are covered with diamonds to the value of some hundred thousand francs.

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NEW YORK, JUNE 22, 1850.

Patent Office, and Reform of the Patent Laws.

In the article published by us last week, taken from the Washington Union, strong objections are made to the Bill now before the Senate for reforming the Patent Laws, especially that clause which provides, "that all rules, orders and by-laws of the Patent Office, be entered in a book for that purpose, which shall be kept open for inspection to all persons transacting business at the office, and such rules, &c. shall be general in their application in all cases." In advancing reasons against such amendment to the Patent Laws, it is stated that the Office has no by-laws; that its rules, orders and modes of doing business, are printed and public; that nothing has been done secretly, but openly, honestly and impartially, and "the rules never changed for favoriteism." It also repels the charge of partiality and corruption, which the late Commissioner was constantly beset with. All this may be true; but surely this affords no good reason against the above amendment to the Patent Laws. To object to such an amendment, rather affords grounds for suspicion. We believe that our public men are too often accused of bribery and we cannot lay our finger upon any act of the Patent Office which could be classed under such a charge. But for all this, we do not believe that it is perfect—rather the reverse. It needs reforming in some shape sadly, and we hope Congress will call the attention of the Committee on Patents to the subject, empowering the members to examine witnesses in relation to the matter. There is abundant evidence to prove the Patent Office guilty of injustice, recklessness and partiality. The business of the Patent Office, as it respects decisions upon applications, is conducted upon a system of erratics. Applications are granted or rejected, according to the *state of mind* the examiners may be in. There are four chief examiners in the Patent Office, each a feudal baron on his own domain. Their decisions, therefore, sometimes resemble boys shooting marbles along the four sides of a rectangle. One has acquired for himself the glorious title of "the guillotine." He knows every thing that was, is, and is not, and never will be. It certainly looks singular to see men making decisions, which resemble a dance of crooked sticks. Decisions are sometimes made in the Patent Office, which amount in substance to boxing the bones and throwing the compass overboard.

It is time that there were some uniform rules and regulations for *all cases* in the Office. One applicant will be rejected this week upon some shallow plea, when lo and behold another will receive a patent next week for something which has far less claims to patent protection. The Office is great upon granting patents for fly-traps, and such portentous engines of war, even to the placing of a looking-glass in one claim on our list this week. We suppose that this one for variation must be a wonderful *rat* trap. Some applicants are exceedingly fortunate beside others. A few years ago, an application was made for a new manufacture of hats, a peculiar kind of willow bark being used for that purpose, and a kind which never had been used to our knowledge, and we know all the outs and ins about the business. It was rejected, upon the plea that various kinds of bark had been used for that purpose, and it did not constitute the *legal* subject of a patent. The assignee of the inventor solicited the advice of Mr. Elliot in Washington, who advised him not to prosecute his claims, and we being an acquaintance of some twelve years standing with Mr. Hamilton, we told him to take Mr. Elliot's advice, as being in our judgment the most prudent, to follow. The matter was dropped then, and he went to Charleston, S. C. Next summer we met him in New York, when he pulled a Scientific American out of his pocket, and pointing with his finger to a claim granted for "a new manufacture of nails made of muntz metal, (brass,) exclaimed, "So much for the impartiality of our Patent Office." We could pile up a number of such cases.

The decisions of the Patent Office are sometimes so unjust, that poor inventors are deprived of protection for good improvements, and thus the Patent Office becomes the biggest pirate of inventions in the Union. A working journeyman tinsmith in this city invented a new chimney cap three years ago, and applied for a patent. It was rejected upon the plea that there were plenty like it in New York, and it was described in "Reid on Ventilation." No chimney like it, either in appearance or quality, had ever been seen in New York, and the one in the work referred to, was as like it as cheese is to chalk. The Patent Office was then reasoned with on the subject, and in a letter sent to Washington, there was an affidavit in respect to its qualities, from a gentleman in this city, Mr. P. Naylor, who knows more about such things, practically, than the whole corps in the Office. But no matter, the Patent Office informed the inventor, (Mr. S. Bull,) that they did not take such evidence to be their guide, but if he would come on and show the superiority of his cap, they might grant him a patent. At that time Mr. Bull had not the funds to go to such an expense, and for want of protection to his invention, the Patent Office has allowed him to be plundered of his just rights.

We like impartiality, system and fair dealing in every respect. We don't like to see one applicant refused a patent upon grounds which are held to be no objection to the granting of a patent to another. We care not who the applicant is, let him be Jew or Gentile, when he applies for a patent, let his application be treated without moodiness and with impartiality. The Patent Office was mighty patriotic in the case of Mr. Bain, but recently, as if to make amends for past sins, it has granted a patent to a foreigner for a *peculiar curve* of a bucket for a propeller wheel, and rejected the application of an American citizen for a bucket of a *peculiar form*, which has been tested satisfactorily on a large steamboat. He is soon to receive his patent from England—that protection from a foreign government, which has as yet been denied at home.

It is a well known fact, that many applications for patents are rejected at first, and then after a long correspondence, or a visit of some well paid person to the Patent Office, who knows how to manage the case, or else a visit at great expense by the inventor, (but the latter is not generally successful,) a patent is granted, perhaps with the alteration of one word to suit the whim of an examiner, and thus the rejected applicant at last gets a patent, and a patent that will be supported at law too. We dare say a hundred such cases happen every year.

The present Commissioner thinks the whole fee of rejected applicants should be retained, instead of $20 being returned as is now the case. Why? because the correspondence is generally so lengthy and expensive to the Patent Office. But whose fault is this? That of the Office. If the reasons of the rejection are good, then the controversy will be short. We never trouble the Office with a scrap, if the reasons of rejection are good, and we never will do it. There is one reform which we would like to see carried out in respect to the Patent Office; and that is, "The first letter of rejection to be *special*, and to contain the heads of defence, in order that the applicant may examine and appeal to the Judge, paying down $25 on the notice of his appeal, and if defeated to lose it; but if successful, to be paid back his money and other $25 by the Patent Office. This is the rule working both ways, and is nothing more than justice. Another reform is the return of models to those who are rejected. Some models cost four and five hundred dollars, and it is rank injustice to retain them after refusing patents.

We have pointed out some of the *impartialities* of the Patent Office, and could produce plenty more facts to back up all we have set forth. Does this not show that something ought to be done with this peculiar *Department* of the government? The principles of our government are correct and sound, but it is in the Departments, where there are so many departures from positive good to comparative worse.

Paine's Electric Light.

There is no subject I believe which has been brought so prominently before the public, within the past year, and with so little satisfaction, as the Electric Light of Mr. Paine. He has written a number of letters on the subject himself, which have appeared in the Scientific American, and during the past few months I have read various long communications by others, in different papers. The discovery of Mr. Paine is stated to be an entirely new property belonging to magnetism, or mechanical electricity, (the public not being fully enlightened on this point, which is kept secret,) whereby water is resolved entirely into oxygen, or entirely into hydrogen, according as it is combined with positive or negative electricity; and furthermore he asserts that he has discovered electricity to be a ponderous substance. Speaking for myself, and I have no doubt others have the same feelings, I have been greatly disappointed in respect to this alleged discovery. Expecting every week to hear something of its principle, as Mr. Paine promised in 1848, I have in vain looked for the development of what every one would have rejoiced to know, as a grand addition to scientific discovery. I read in a Boston paper, the "Transcript," last week, that persons in New York and Boston had bought Mr. Paine's interest in the discovery for $5,000,000, half a million down. I for one do not believe this. I know something about the sale of inventions, and will venture to assert, that the names of the persons said to have bought this invention, cannot be produced. Another account which I have read, states that Sir George Cayley, a very scientific English gentleman, wrote to Mr. Paine, saying he was charmed with the discovery, and would consider it a favor to introduce it to the British Scientific Association. Another account states that Sir C. D. Archibald, a member of the Royal Society and an officer of the royal household, has been on a visit to Worcester to see the Light, and has been perfectly astonished; and he too solicits from Mr. Paine the high honor of introducing the Light to the British public. Behind and beyond these noble names and numerous paragraphs, there is something perfectly inexplicable. What can it be?

Having conducted many experiments in electricity, and having heard numberless lectures on the subject, by some of the most eminent men, I will present a few facts in connexion with this subject, which, although not new to some, will be new to many.

The Hydro-electric Light of Mr. Paine is stated to be formed of water decomposed by electricity. Water is composed of oxygen and hydrogen, and these two gases when burned on a piece of calcium, produce what has long been known as the Drummond Light. Water was decomposed by electricity many years ago by Dr. Wallaston, and by the voltaic battery by Sir Humphrey Davy. The decomposition of the water is not therefore new. Mr. Paine has asserted that all the water in a vessel can be resolved into hydrogen. If this is true, then he can resolve oxygen into water. I should like to see it done, and until I see it fairly done, will not believe it. The ponderability, as Mr. Paine would call it, but rather what I term the mechanical power of electricity, has been long known; and Mr. Paine, although he thinks he did, did not make the first discovery of breaking a vessel, by what he would perhaps term *compression.* Beccaria succeeded some years since in fracturing to atoms a ball of glass, two inches in diameter, by means of an electric spark passing through a drop of water contained in a small cavity within the centre of the ball. Stones, wood, and other brittle imperfect conductors, are rent in pieces by an electric discharge between wires placed within them.

The lighting of streets and buildings by voltaic electricity, has occupied the minds of many eminent men during the past thirty years, but in an economical point of view, every attempt has failed; although, for experimental purposes, as the splendid voltaic light of Archereau in Paris is an evidence, no artificial light can exceed it in splendor. Mr. Paine states that he can produce his brilliant hydro-electric light at little or no expense at all. If this is perfectly correct, I may say that better times have dawned upon the world. It is my opinion, however, that he has made some great mistake—overlooked something in conducting his experiments.

Although Mr. Paine has made some extraordinary statements himself, it may be that he is indebted more to the imprudence of his friends, like Mr. Porter, for highly colored descriptions of his discovery. So far as the opinion of men of science is concerned, they cannot be satisfied with the mere exhibition of the hydro light—that is nothing to them; it is the new manner of producing it. Until this is done by Mr. Paine, in a public lecture, or description, the reported discovery will be viewed as something suspicious. Every good discovery should meet with its reward, and this one will, if it is worthy. R.

[In an article which formed a leader in the Tribune of Thursday, 13th, the whole subject is reviewed, and Prof. Henry's objections to the philosophy of Mr. Paine's discovery, attempted to be overthrown. In it is stated, to the objection of Prof. Penry, that "Mr. Paine does not separate the gases of water, hut produces them cotemporaneously from two separate bodies of water"—thus intimating that the effect produced, produces a far greater amount of power, than it required to produce the effect—the secondary being greater than the first cause. Instead of this obviating Prof. Henry's objection, it is no answer to it at all; for the water must change its condition, and what is that but the same thing as saying, a separation of the gases. In a change of condition, there is always a change of property, like ice absorbing coloric and becoming water, and by increasing the amount, becoming steam; and to do this artificially, requires expense or equivalents of force to produce like equivalents. This is the philosophy of that part of the subject. In the same article we are told that the water is decomposed by ordinary magnets set in motion by clockwork, except that into the *helices* he has introduced a substance never before employed for that purpose, and this he keeps secret." Are we to understand by this, thet he employs "electro magnets"? They are not *common* magnets. It is also stated, that Mr. Paine is going to introduce his apparatus into the Astor House, arrangements now being made for that purpose, the pipes and burners now used being perfectly adapted to burn Mr. Paine's *carbonized hydrogen.*

What is the meaning of *carbonized hydrogen?* How is Mr. Paine to get his carbonic gas out of his water? We are also told, that the experiment is to be made to satisfy a number of highly respectable, responsible parties, "who propose to buy the patent right in case of success." Mr. Paine has no patent, and he has asserted that he would have none, the glory of the discovery was all he wanted. But we believe he is now right to get as much for it as possible. A man should be paid well for every good discovery. "The value of the patent," says the Tribune, (what "patent?") "is fixed at ten millions of dollars for the United States, and the parties spoken of are to put up $100,000 as a guarantee for the purchase of it, if Mr. Paine will light the Astor House for six nights at the nominal expense of five cents for a thousand feet of gas. Mr. Pedrick of Boston, is the gentleman who has made the bargain for himself and Mr. Paine." We shall see how all this will end; but we are afraid that it will take some time, as the development appears to be slow work.—Ed.

Steamship Viceroy.

The Steamship Viceroy from Galway, Ireland, arrived at this port last Saturday. She was to be the first of an Irish Line, but although she made a good passage, she failed to compete with the Cunard's. In all likelihood the project will be abandoned, for some time at least.

Steamship Atlantic.

This fine American Mail Steamship, sailed for Livepool on last Saturday at 12 M. She unloaded, loaded and was off in five days.—She will no doubt make a good passage.

Persons writing to this office for information, and charging us with the postage without enclosing a fee, cannot receive any attention.

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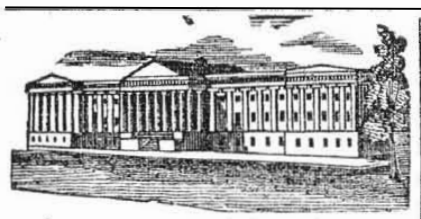

☞ Our weekly List of Patents and Designs contains every new Patent, Re-issue and Design emanating from the Department, and is prepared officially, expressly for the Scientific American, and for no other paper in the city, consequently other journals are obliged to wait the issue of the "Sci. Am." in order to profit by the expense to which we are subject, and of course must be one week behind. Those publishers who copy from this department in our columns, will, in justice to us, give proper credit for the same.

LIST OF PATENT CLAIMS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending June 11, 1850.

To Stephen H. Adams and John A. Wood, of Cohoes, N. Y., for improvement in Carding and Mixing Wool and Cotton.

We claim the picking and carding of the wool and the cotton separate from each other, and the drawing them off together from the second carding machine, and then mixing their fibres with each other by means of the finishing or condensing card.

[This is a most puzzling claim, and one that will astonish some of our manufacturers.—Ed.]

To James Barnes, of Franklin, N. Y., for improvement in connecting Whiffletrees with Carriages.

I claim the stops or blocks, E E. cast upon or otherwise affixed to the box, a, and the stops or blocks, n n, cast upon or affixed to the followers, in such manner that when the two are joined by a central bolt passing through, they will interlock and form a stop coupling, secure from derangement from external causes, the whole constructed substantially in the manner herein described.

To Ransom Cook, of Saratoga Springs, N. Y., for improvements in Hydraulic Apparatus for producing Blast.

I claim, first, the use and application of boxes, tubs or cavities, attached to wheels, disks or arms by movable joints or journals, in such a manner that they shall enter the water with their open sides downwards, and when beneath the same shall empty or discharge the air which has been compressed within them by the water, into a receiver which is separate from such wheels and air boxes; all for the purpose of producing a blast of air to be used in heating, smelting, and other mechanical operations.

Second, I also claim for this purpose the disk, recess, or concavity of the wheel, so as to allow the receiver to project over the mouths of the air boxes to receive their compressed air.

Third, I also claim for the same purpose the cam, the cranks, I, and the cranks attached to the air boxes, together with the piece, on the open side of the boxes, the mouth, for discharging their compressed air and the blocks, for throwing forward the cranks.

[See engraving No 24 vol. 5, Sci. Am.]

To F. Durand & O. Pecqueur, of Paris, France, (Assignors to R. E. Rabeau, of Philadelphia, Pa.,) for machine for cutting leather into hollow-ware forms.

We claim the combination of the vibrating knife with fluted rollers; constructed and operting substantially in the manner and for the purpose above fully set forth, one of which rollers being fluted longitudinally and the other circumferentially, serve firmly to hold the leather in any position.

To Duff Green, of Dalton, Ga., for method of forming embankments, levees, &c.

I claim the method herein described, of depositing earth to form embankments, levees, etc., and to fill up low situations, by means of filtering dams, or their equivalents, and a trough or conduit conveying earth and water from a higher level, substantially as herein specified.

To W. Groat, of Troy, N. Y., for improvement in adjusting packing for oil boxes of axles, &c.

I claim the employment of an adjustable band surrounding the oil packing of railroad car or other journals, so as to admit of adjustment from the outside of the box, in adjusting the packing around the journal, and render the box oil tight, in the manner and for the purpose, substantially the same as herein described and represented.

To G. Morgan, Calhoun, of Tenn., for improvements in cars for plank roads, wooden rails, &c.

I do not claim an endless chain of wheels working against a stationary rail to support a carriage; nor do I claim laying down supports for said wheels, these having before been done; but what I do claim, is the combination of a chain of rollers with broad bearing surfaces running around a stationary rail or track on the carriage with an independant chain, which forms a track for said rollers to travel over when resting on the ground, and which passes around outside of said chain of rollers.

I also claim the mode of constructing said track chain, by lapping the links thereof, so that the rollers shall have a constant bearing on the three plates which form two succeeding links, and break joint with each other, as clearly represented.

To C. H. Parker, of New Geneva, Pa., for improvement in bedstead fastenings.

I claim the device for securing the ends of the rails to the posts, consisting of a headed tenon on the rail and two wedged shaped, and dovetailed boxes in the post, the latter held in place by the pendent arms and tie-rods by which the mattress is stretched, substantially as herein set forth.

To W. F. Ressegine, of Cincinnati, Ohio, for improvement in spring mattresses.

I claim the construction of the jointed spring mattress, substantially as set forth in the specification.

To E. S. Snyder, of Charlestown, Va., for improvement in threshing machines.

I claim first, surrounding the twisted wings with an imperforated case and placing the same inside the threshing cylinder—the whole revolving together in the manner and for the purpose set forth.

Second, constructing the concave of adjustive star or other shaped teeth attached to rods fastened to the frame, substantially as described and set forth in the specification.

Disclaimer.—I am aware that such teeth have been used in the throat of feeding apparatus of a corn sheller to aid in feeding, and thereof I only claim them when used for the rubbing surface of the concave.

Third, placing the curved spring rack between the concave of adjustive teeth, and the vibrating separator, in the manner and for the purpose described.

To J. Stevens, of Middletown, Md., for arrangement of mirrors in traps.

I claim the arrangement of the mirrors, substantially in the manner and for the purpose set forth.

To J. A. Woodbury, of Boston, Mass., for improvement in planes for tonguing and grooving boards, &c.

I claim the combination of a gouge or gouges, (for removing the bulk or greater portion of a shaving in forming tongues or grooves in boards or planks) with smoothing tools having a chisel edge, a cutting and side lip on either, or both sides thereof, (for smoothing sides and bottom of the grooves, and the edges about the tongues, as set forth;) said gouges being set in front of said smoothing tools, and the whole being arranged, and operating substantially, as herein above set forth.

RE-ISSUES.

To G. Spafford, of Windham, Conn., deceased, (assignor to J. Campbell, of New York, N. Y.,) for improvement in the machine for boiling and washing rags for manufacturing paper. Patented Sept. 21st, 1840. Re-issued June 11, 1850.

What is claimed, is the herein before described process of preparing materials for making pulp in the manufacure of paper by digesting them in a turning vessel with an alkaline solution or other liquid, the heat being applied to the outside of the vessel or by steam introduced with in it substantially as herein set forth.

DESIGNS.

To A. Paul, of South New Market, N. H., for design for stoves.

I claim the combination of the bull's eyes in alto relievo (having radial notches as described) and of alternating concave and convex, radial ribs and surrounding mouldings, on the several doors and pannels of the front and side plates, and the row of pointed levers, and of alternate notches and ridges, &c., on the moulding of the hearth plate, all as herein above set forth and represented in the drawings.

Great Æronautic Enterprise.

"It is with feelings of pride and heartfelt pleasure we are enable to state that two balloons, one fifty feet in its greatest diameter, and from thirty to forty in its transverse; and the other of a smaller size, are being constructed in our city under the immediate personal supervision of the distinguished Æronaut, John Wise. The unparalleled success which has hitherto attended Wise's Æronautic experiments, has induced him to engage in this, his greatest, with the confident hope that it will enable him to prove not only the practicability and safety of Ærial Navigation, but also the ability to steer and propel balloons in any desired direction.

The two balloons will contain over 1500 yards of silk, and the capacity of the largest will be sufficient to enable Mr. Wise to take with him six passengers at least, in his ærial voyages, as it will contain 80,000 cubic feet of gas, with an ascensive power of 70 lbs. to the 1,000 feet. By this means parties of pleasure and invalids, will have an opportunity of testing the pure air of the upper regions, while to the man of science it will open a boundless field, hitherto wholly inaccessible save to a favored few. In order that the safety of an ascension may be fully apparent, the Balloon will be permitted to rise several hundred, or over a thousand feet, and be made to descend at the pleasure of the voyagers by means of a cord and windlass. Where it is desired, Mr. Wise will take excursions of 500 or 1,000 miles, without any of the appliances for descent at pleasure but those usually employed by Æronauts—the valve, &c.

By these lengthly excursions, say from Cincinnati or St. Louis to the Atlantic Seaboard, he wishes to demonstrate the entire feasibility of crossing the Atlantic Ocean, and circumnavigating the entire Globe. Nor is this all, Mr. Wise has always contended for the practicability of steering and propelling balloons in any direction. The smaller of the two balloons now constructing is designed to aid him in proving the truthfulness of this theory.—Our slight knowledge of Æronautics will not enable us to explain by what means he proposes effecting this, but the very confident manner in which he asserts his ability to do it satisfies us that it can be done. In his recently published, and highly interesting work, he has most clearely demonstrated the possibility of "varying at will, from a straight course, thirty or forty degrees from the latitude of departure." Should he succeed, as we have no doubt he will, what mighty results must follow his success.

Mr. Wise is now negotiating with Mr. Paine, of Worcester, for the use of one of his "Magnetic Decomposers," by which water is rapidly converted into its gaseous elements. As the ascensive power of the gas thus obtained is much greater than that hitherto used in ballooning, the operation will be greately facilitated by the use of Mr. P.'s apparatus.

The enterprise has been undertaken by five scientific gentlemen of our city, including Mr. Wise. Too much praise cannot be awarded them for the noble stand they have take on the side of science. The cost of the two balloons now constructing will exceed $3,000, and we have been informed by Mr. W., that one sufficiently large and safe to cross the ocean and circumnavigate the Globe would cost about ten thousand dollars. Such an one, this company propose ultimately constructing, in order that our country may take the lead in Æronautic Science and adventure, as she is fast doing in almost every other department.—We shall note from time to time, the progress of the enterprise, and keep our readers duly advised of it."

[We take the above from our cotemporary, the Lancaster (Pa.) Gazette. It will show that our intrepid friend John Wise is bound to show the world something new in ballooning. If any man can make the balloon go, and go succesfully, he is the one. We would like to hear from him in relation to his negotiation about Mr. Paine's apparatus.

Petition for the Extension of a Patent.

Edward M. Chaffee, of New Brunswick, New Jersey, has applied for an extension of his patent for an improvement in the manufacture of India rubber. The petition will be heard on the 5th day of next August, at the Patent Office. The patent expires on the 31st August.

English Estimate of American Clocks.

The following extract from a late work on clock and watch making, by Edmund Beckett Denison, will exhibit the effect in England of one branch of American manufactures:

"The bracket clocks with pendulums from 10 to 18 inches long, are now almost the only English clocks (except regulators) that find any sale. These, when well made with a fusee, and not exposed to a temperature that freezes the oil, (which is much above the freezing point of water,) will go nearly as well as a coarsely made long clock of the old fashioned kind. Sometimes they require a good deal of trouble to set them so as to beat equally; for if they are not set, they are very likely to stop, as they have generally, and the foreign ones always, have very little force to spare.

Even they are getting fast superseded by the latter class of American clocks, and French ornamental clocks, neither of which, however, will last nearly so long. With the latter it is no doubt quite hopeless for us to compete, as, besides the great cheapness of their labor, the French appear to possess what I may call a smaller eye and finger than English workmen, and they are able to perform dilicate and ornamental work with much greater quickness and facility. And as those who chiefly regard the beauty of the figure of their clocks seldom care much about their entrails, they consider it of no consequence that a good English clock is better for the natural object of a clock than a foreign one. Whether it would be possible to manufacture clocks on a large scale as cheap as the American ones, I am not able judge. I have been told that, but for the cases it would. But unless the English clockmakers take some steps towards either altering the kind of clocks that they make, or can find out some cheaper mode of making them, there is no doubt that there will soon be no house clocks, except regulators, made in this country. The old-fashioned, full length house clock is now nearly exploded, on account of its ugliness, size, and dearness, as compared with the American clocks, which go sufficiently well for ordinary purchasers.

No one who has seen the inside of an American clock can help seeing that ours are unnecessarily heavy, and waste a great deal of the force in merely ovecoming their inertia and friction. An American clock goes a week with both the weight and the fall for it, not half of what they are in the common English clocks; and as a large pendulum requires no more force to keep it going than a small one, it is evident that about ¾ths of the moving power in our clocks is wasted. (The commendation of the American clocks cannot be extended to the fixing of their pendulums, which is bad as possible.) I have also seen some very neat French clocks, about the same size as the American, but much more highly finished, and with dead escapements, going a week with a very small weight."

Patent Case—Hay Press.

Before Judge Nelson in the United States Circuit Court, New York.—Nichs. J. Lampman against V. P. Adams, for an alleged infringement of a patent for an improvement on a machine for pressing hay. The defence was, an abandonment of the invention to the public. The press considered an infringement, was made nearly two years before the patent was granted; but application for the patent was made before the machine. The verdict was given for the plaintiff on last Thursday, the 11th. Damages, $10. Geo. Gifford for plaintiff; A. L. Jordan for defendant.

Index to Patents.

Mr. Davis, of Mississippi, submitted to the following resolution to the Senate last week, and it was adopted:

Resolved, That the Committee on Patents and the Patent Office be instructed to inquire into the propriety of causing to be prepared and published an analytical index of the patents which have been granted by the United States, to promote the progress of science and the useful arts.

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TO CORRESPONDENTS.

"H. M., of O."—On Saturday June 8th, we shipped to your address one of Alcott's Lathes by Wells & Co., Express.

"A. M. C., of Me."—Numbers 1 and 3, of your inventions appear to be of the greatest importance. The 1st is a desideratnm much wished for at the South and West, but you should establish its practical value before incurring much expense upon it. Each of the inventions refered to are proper subjects of a patent, and if new could be secured.

"D. M., of Pa."—Not having the information you desire, we handed the letter over to Mr. S. for attention. The patent reports are published by order of Congress for the use of the members, and not for sale.

"D. F. N., of Mass."—We cannot tell whether your principle is new or not, as you do not enter into any description of it, by which we can judge. If it is different from anyother, you could obtain a patent for it. We have no reason to think it is not. The profitableness of it will depend upon its practical value, and the manner in which it is managed. Some good inventions do not pay, while some poor ones do. You had better send us a drawing and description of it for further attention.

"J. O., of Pa."—In relation to your first letter, there was no mention made of a patent in it. It is very difficult to give advice on the point. We cannot say that you would get a patent. There are so many plans for reversing machinery, clutches, &c., which lead us to express some doubts about a patent. We shall see you when you come.

"F. H. S., of Pa."—Your plan is good enough, but not new. We see no difference in it from devices now in use for a like purpose.

"J. W. A., of Mich."—Your plan has been proposed before. It will not operate successfully at all. Aerial navigation has not progressed a single step in thirty years.

"B. P., of Mass."—The old tanned leather chips could make Prussian blue, but not with profit, for the expense of the manufacture would not enable you to compete with those who make it at the West out of purer materials. The artificial marble can be made out of the clay; but it requires a person to learn the business, like everything else of a trade. Artificial agate, as beautiful as the natural stone, is now made out of blue clay at the Argillo Works, Albany, N. Y.

"J. T., of Va."—We have forwarded you the numbers of Arnott's Achitect up to No. 6. The work is complete in double numbers at $1,50 for both. By enclosing $3, in a letter to us, we can forward a copy of Minifie's Drawing Book by mail.

"R.A.C.,of Conn."—You could not succeed with your project. It has been tried before and thrown aside in consequence of the enormous expense, compared with the more modern plans.

"J. A. R., c e e, of N. Y,"—It may be better to wait and see how the Pacific and Atlantic perform, before saying much on the subject. Their engines are similar to the British kind. The Cunard Line use no more than 7 lbs. steam, not 14.

"E. R., of N. Y."—If a water wheel is not a lever, what is it? All machines are levers—every one. For the information you want get Evan's Millwrights guide. Price $3. You are entitled to $20.

"G. A. S., of Vt."—We cannot give you the desired information, but must express our doubts about its equality to an overshot wheel. Get the opinion of some disinterested person who has tried it—that is the most reliable.

"A. W. of Ohio."—We cannot see any thing different in your bridge from many others which combine the tension rods, arch and horizontal stringers. There can be no doubt about its practicability. Of this you may rest assured.

"H. & A., of O."—We forwarded your engraving by Wells & Co's Express on Saturday, June 15th; it is a beauty and cannot help but please you.

"N. P. of O."—Your papers have been returned to the Patent Office corrected. We are sorry that our letter of March 16th was m scarried, we also regret your loss.

"W. A. H., of Mass."—A man cannot come in from another State and purchase and sell, for the exclusive property of the Patent belongs to the owner in the State. A man cannot get his patent renewed but once at the Patent Office; Congress may do it by special law.

"S. A. S., of N. Y."—We know of no hydraulic ram being used as a prime motor. It would not be equal to a wheel. An improvement could be patented, but we would like to know how it is applied before we could answer your other question.

"J. M. O. B., of Me."—Chucks are so numerous, that it is difficult to point to anything new. We believe you are anticipated. We would refer you to a work called Holtzapphel on turning. It contains a great variety. Its cost is $10. 2 Vols.

"H. & V. V., of Pa."—The cement made with bullock's blood will not answer as well to be exposed to the weather. We have seen it used for floors inside, the blood of one ox answering for five square yards. It has to be mixed with great expedition, otherwise like common lime mortar. We believe that the flags laid down in good cement would be the best and most satisfactory to you in the end.

"B. W. T., of N. Y."—Will you construct a model and try the experiment? We believe you will find it less effectual than you suppose, but you are right about the scroll.

"W. C., of N. Y."—We shall communicate with Mr. Cooper, when he calls upon us, our opinion in reference to the novelty of your invention.

"W. S., of Phila."—The drawing and description of your brick press has been carefully examined. We are of the opinion that a patent could be obtained upon points involved in the combination. You had better construct a suitable model and forward it to this office for further attention.

"R. M., of Va."—So far as we are able to judge from the drawing, we think your winnowing machine possesses some novelty. It is not fully explained how the riddle receives the vibratory motion, but we see how it could be done. The novel point seems to be in the manner by which the additional blast of air is given. There may be other novel features which cannot be determined upon without a model. Don't puzzle your head about perpetual motions, unless you have money to waste away. You could make better use of it by dispensing it among those less fortunate.

Letters Patent belonging to individuals of the following names are remaining at our office, which we wish the owners would order away :—James Dane, of Vt.; Nathaniel Hathaway, of Mass; Emanuel Parker, of S. C.; Jas. Ingram, of N. Y.; John P. Groshon, of N. Y., and O. L. Reynolds, of N. H.

Money received on account of Patent Office business, since June 12th, 1850 :—

S. H. J. & Co., of Pa., $20; W. B. B., of Me., $25; W. R., of Mass., $30; T. B., of N. Y., $20; C. S. S., of Mo., $22; M. N., of Pa., $30, and H. & B. of N.Y., $33.

New Agents for the Scientific American.

Our South Carolina friends are hereby informed that we have completed an arrangement with the publishers of the "Southern Literary Gazette," to receive subscriptions for the Scientific American. Money paid to the Editor, Mr. Richards, at Charleston, for subscriptions will be duly acknowledged and the paper forwarded as he may direct.

Back Volumes Scientific American.

We are obliged to inform our patrons that complete sets of all the past Volumes are entirely exhausted. We have a few incomplete sets of Vols. 2 and 3, comprising about 50 Nos. of both Vols., which may be had by remitting one dollar, and we have sets of above 40 Nos. each of Vols. 3 and 4 which will be forwarded by mail an the receipt of one dollar for each set. Those desiring to secure Vol. 5 but have delayed subscribing at first, are advised to remit $2 without delay or they may be disappointed in getting a volume at all, should they wait until the Nos. are all published?

Important Notice to us!

Whenever any of our friends order numbers they have missed—we shall always send them, if we have them on hand. We make this statement to save much time and trouble, to which we are subjected in replying, when the numbers called for cannot be supplied.

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" 12 lines, 75 cts., " "
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Patent Office.

128 FULTON ST.

NOTICE TO INVENTORS.—Inventors and others requiring protection by United States Letters Patent, are informed that all business relating to the procuration of letters patent, or filing caveats, is transacted at the Scientific American Office, with the utmost economy and despatch. Drawings of all kinds executed on the most reasonable terms. Messrs. Munn & Co. can be consulted at all times in regard to Patent business, at their office, and such advice rendered as will enable inventors to adopt the safest means for securing their rights.

Arrangements have been made with Messrs. Barlow and Payne, Patent Attornies, in London, for procuring Letters Patent in Great Britain and France, with great facility and dispatch.

MUNN & CO.,
128 Fultonstreet, New York.

CLOCKS FOR CHURCHES, PUBLIC Buildings, Railroad Stations, &c.—The subscriber having made important improvements in the construction of Clocks, especially in the apparatus for counteracting the influence of the changes of temperature upon the pendulum, and in the retaining power, (which keeps the clock going while being wound up,) together with a most precise method of adjusting the pendulum to correct time, are prepared to furnish time-keepers of a very superior quality, both for accuracy of time-keeping and durability. They speak with confidence, from having tested their performance for several years. The terms of payment will be so arranged as to afford purchasers ample opportunity to test their qualities. Address SHERRY & BYRAM, Oakland Works, Sag Harbor, Long Island.
40 3meow*

JOHN H. LESTER—Manufacturer of Woodworth's Planing Machines, Steam Engines, and Boilers, Sugar Mills, Slide Lathes, Iron Planing Machines, Iron and Brass Castings of every descriptions. Planing Machines of all sizes and with all the latest improvements constantly on hand or made to order at the shortest notice, with Steam Engines, Boilers, Shafting, and every kind of machinery necessary to fit up planing, sugar or saw mills. Orders by mail or otherwise will receive prompt attention. Office 192 Fulton st., N. Y. Factory and Foundry at Hastings upon the Hudson, 20 miles from the city by H. R. Railroad.
404*

TO MACHINISTS.—A superior iron power Planing Machines for sale, by Faulkner & Lewis, S. W. cor. of Hamilton and Nixon sts., near Fairmount, Phila.,—will plain 6 feet by 27 inches wide and 24 inches high, weighing 23 cwt., will plane nearly 3,000 sq. in. in 10 hours; it is finished in a superior style and built on the most approved principle. Will be sold cheap. For particulars please call or address as above. Also steam engines and lathes built to order. 404*

THE THIRD ANNUAL EXHIBITION of the Maryland Institute for the promotion of the Mechanic Arts, will be opened at Washington Hall, Baltimore, on Monday the 14th Oct., 1850. The Committee of Arrangements earnestly invite the mechanics and manufacturers throughout the States to exhibit speciments of their handiwork and become competitors for the prizes offered as premiums for superior merit, either in design or execution :—15 gold and 60 silver medals are offered to male and 40 to female contributors. Competent judges will be carefully selected, and increased facilities afforded to all those desiring to present articles for premium or exhibition. For further information, address the Chairman of Com. on Exhibition, Baltimore.
37 5 C. W. BENTLEY, Chairman.

ALCOTT'S CONCENTRIC LATHES.—We have on hand a few of these celebrated Lathes, which the inventor informs us will execute superior work at the following rates :—

Windsor Chair Legs and Pillars, 1000 per 11 hours. Rods and Rounds, 2000; Hoe Handles, 800; Fork Handles, 500; Broom Handles, 1500, per 11 hours.

This Lathe is capable of turning under two inches diameter, with only the trouble of changing the dies and pattern to the size required. It will turn smooth over swells or depressions of 3-4 to the inch, and work as smoothly as on a straight line, and does excellent work. Sold without frames for the low price of $25—boxed and shipped, with directions for setting up. Address, (post paid). MUNN & CO.,
14tf At this Office.

WOOD'S PATENT SHINGLE MACHINES—These excellent machines, illustrated and described in No. 23, Vol. 5, Scientific American, are offered for sale in Town, County and State Rights, or by single machines. There are three sizes, the first cuts an 18 inch shingle, price, $100; 2nd cuts 24 inch, price $110; 3rd, 23 inch, $120. Orders addressed to J. D. Johnson, Easton, Conn., or to Munn & Co., "Sci. Am." Office, will meet prompt attention. 36 tf

MACHINERY.—S. C. HILLS, No. 12 Platt Street, N. Y., dealer in Steam Engines, Boilers, Iron Planers, Lathes, Universal Chucks, Drills Kase's, Von Schmidt's, and other Pumps, Johnson's Shingle machines, Woodworth's, Daniel's and Law's Planing machines, Dick's Presses, Punches, and Shears; Morticing and Tennoning Machines, Belting, machinery oil; Beal's patent Cob and Corn Mills; Burr Mill, and Grindstones, Lead and Iron Pipe, &c. Letters to be noticed must be post paid. 33tf

MECHANICS' FAIR AT BOSTON—(To be held September, 1850.)—The New England Patent Agency, Haskins building, Boston, will receive patented machinery, or other articles, place the same in the above Fair, and take orders for them, or dispose of the Right, for a reasonable commission. They will also, if desired, exhibit them before or after the Fair, at their own spacious rooms. Storage free, and no expense charged except freight and cartage. Inventors should lose no time in forwarding their articles. DARIUS WELLINGTON, Agent
39 8 New England Patent Agency.

SAW MILL MACHINERY.—The subscriber would respectfully inform his friends, and the public generally, that he still continues to manufacture, and keeps constantly on hand all kinds of saw mill machinery, consisting of log saw mill fitted up in the best manner and most approved mechanical mode, patent improved slitting and panel saw mills, (patented by himself and proved superior to any other in use) also for veneering, scroll and circular saws. Shafting and other machinery fitted to order. Persons in want of such machinery will promote their interests by an interview with the undersigned, before engaging elsewhere, articles embraced above, as his long experience both in the manufacture and use thereof, has given him a thorough practical acquaintance with the best models of constructing.

THOMAS J. WELLS,
38 4* Foot of 29th St., N. R., New York.

NEW STYLE AND IMPROVED SLIDE LATHE.—SCRANTON & PARSHLY, New Haven, Conn., will sell the best slide Lathe for $150 to $200 less than ever before sold. They are built in the most substantial manner—the heads geared and arbors large and of the best cast steel; the slide rest is held to the bed by guides, fed by a screw 2 in. diameter, and feeds from 80 to the in. to 5 1-2 in., pitch, working several hundred different pitch threads within these extremes. Besides the regular lathe feed it has the facing up feed. It is admirably adapted for holding and boring boxes, cylinders and turning and cutting screws. One extra large size face plate, centre rest and reversing pullies go with each lathe. The 12 ft. lathe weighs 4000 lbs. turning 8 ft. 5 in., price $450. The 15 ft. 7 in. lathes 4500 lbs., turning 12 feet, $500, swings 26 in. For further particulars address as above, (p. p.) Other lathes for sale as heretofore. 34tf

MACHINE BANDS, RUBBER HOSE, &c.—After 20 years devoted to the manafacture of India Rubber, the undersigned feels confident of his thorough practical knowledge of the quality of goods in his line. The three factories now owned and operated by him, turn out large quantities of all kinds and styles of rubber goods in use, mostly vulcanized rubber. Orders for railroads, factories and merchants executed with intelligent regard to wants and best interest of the customer. Warehouse 23 Courtland st., N. Y.; 1 factory at Great Barrington, Mass., with whole flow of Housatonic river for power; 1 at New Brunswick, N. J., by steam power; 1 at Piscataway, N. J., waterpower. These 3 factories embrace machinery and apparatus costing over $50,000—enabling the owner to execute orders with more promptness than any other establishment in the United States.
33 10* HORACE H. DAY.

TO PAINTERS AND OTHERS.—American Anatomic Drier, Electro Chemical graining colors, Electro Negative gold size, and Chemical Oil Stove Polish. The Drier, improves in quality, by age—is adapted to all kinds of paints, and also to Printers' inks and colors. The above articles are compounded upon known chemical laws, and are submitted to the public without further comment. Manufactured and sold wholesale and retail at 114 John st., New York, and Flushing, L. I., N. Y., by
QUARTERMAN & SON,
36 3m Painters and Chemists

COTTON, WOOLEN AND SILK MANUFACTURERS' DEPOT.—ANDREWS & JESUP, No. 70 Pine st., N. Y., dealers in articles for the use of Cotton, Woolen and silk manufacturers, and agents for the sale of shearing, carding, burring, napping, wool-picking, flock-cutting and waste machines, regulators, satinet and jean warps, &c. Weavers' reeds and heddles, bobbins and spools, of every description, made to order. Sperm, lard and olive oils and oil soap. 40tf

MATTEAWAN MACHINE WORKS.—Locomotive Engines, of every size and pattern. Also tenders, wheels, axies, and other railroad machinery. Stationary engines, boilers, &c. Arranged for driving cotton, woolen and other mill. Cotton and woolen machinery of every description, embodying all the modern improvements. Mill geering, from probably the most extensive assortment of patterns in this line, in any section of the country. Tools, turning lathes, slabbing, plaining, cutting and drilling machines. Together with all other tools requiredin machine shops. Apply at the Matteawan Co. Work, Fishkill Landing, N. Y., or at No. 66 Beaver st. New York City, to
24tf WILLIAM B. LEONARD, Agent.

IMPORTANT INVENTION.—GURLEY'S beautiful and unique machine for gumming saws, noticed in No. 50, Vol. 4, Scientific American, is now offered to the public as a most important desideratum for saw manufacturers and all who use saws, as they can gum the teeth with very little trouble.—Orders addressed to G. A. KIRTLAND, No. 205 South street, (p. p.), will meet prompt attention. 36 tf

FOREIGN PATENTS.—PATENTS procured in GREAT BRITAIN and her colonies, also France, Belgium, Holland, &c., &c., with certainty and dispatch through special and responsible agents appointed, by, and connected only with this establishment.—Pamphlets containing a synopsis of Foreign Patent laws, and information can be had gratis on application
JOSEPH P. PIRSSON, Civil Engineer,
33tf Office 5 Wall street, New York.

JONATHAN TAYLOR, Machinist, Montgomery, Alabama, begs leave to inform inventors and the public in general, that he is prepared to make patterns and models to order. He is also desirous of being appointed agent for the disposal of all kinds of patent machinery. Office on Commerce street, two doors from the Exchange Hotel. All letters must be post-paid. 32 10*

SASH AND BLIND MACHINE—Patented by Jesse Leavens, of Springfield, Mass., is the best Sash and Blind Machine now in use. The Machine cost $300 at the shop where they are made, near Springfield—extra charge for the right of using. The machine does all to a Window Sash and Blind except putting them together. Orders from abroad will be promptly attended to, by addressing JESSE LEAVENS, Palmer Depot, Mass. 22 20t*

TO SOUTHERN MANUFACTURERS and Sugar Planters.—The advertiser a practical machinist and engineer, at present employed as chief engineer of one of the largest manufacturing companies in New England, is desirous of locating South. Address M., Engineer, Lowell Mass. 35 6*

TO THE THINKERS OF NEW YORK. KNOX is desirous that every rational man in want of a hat, should, for a moment, think before deciding where they shall supply that want. KNOX thinks that 128 Fulton st, is just the spot. 38 8*

ONE HORSE STEAM ENGINE—Attached to Bentley's Patent Boiler, with pump, &c., all complete, for sale; it is set up without brick-work and occupies only three feet of floor room,—price $200. Apply, post-paid, to S. C. HILLS, machinery agent, 12 Platt st. 384

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Scientific Museum.

Atmospheric Air.

It is composed of oxygen, nitrogen, and a small proportion of carbonic acid gas.

There is still a difference of opinion as to whether the natural composition of the atmosphere should be considered a definite mixture of 20 volumes of oxygen, and 80 volumes of nitrogen; or of 21 volumes of oxygen, and 79 volumes of nitrogen.

Various analyses made with the greatest care by Dr. Dalton, Gay Lussac, and others, have indicated almost every shade of difference between these two definite proportions, *i. e.* between 20 and 21 per cent. of oxygen to 80, and 79 per cent of nitrogen.

The quantity of carbonic acid gas in the atmosphere does not exceed 1.500 part.

Dr. Ure states that in the driest weather the air contains at least one per cent. of moisture.

Respiration.—In the London and Edinburgh Phil. Mag. we get the result of many experiments upon respiration, made by C. T. Coathupe, Esq. He confirms the previously existing statements, the the average number of respiration made by a healthy adult human being is 20 per minute; and that the average bulk of air respired from each inspiration is 16 cubic inches; in addition to these established facts, he has announced—

1st. That the average daily quantity of carbonic acid gas given off by the respiration of an adult human being amounts to 4.08 per cent. of the air respired.

2nd. That the quantity of carbonic acid gas produced by respiration varies in the same individual at different periods of the day, sometimes being less than 2 per cent, and at others 8 per cent. of the air respired.

3rd. That is less than the stated average during the process of digestion, or during excitement from any cause whatever.

4th. That it is greater than the average while fastening.

5th. That in 24 hours, the respiration of one healthy adult produces 10.666 cubic feet of cabonic acid gas, and removes from the atmosphere exactly the same bulk of oxygen.

6th. That the respiration of each adult human being contributes annually 124.328 lb. of carbon, towards the increase of vegetation, &c.

7th. That one wax candle (of the size of three to the pound) destroys as much oxygen per hour, during combustion, as the respiration of one adult.

Mr. Coathupe also states that the total quantity of air that can be required for the respiration of an adult human being, in 24 hours—even if no portion of that which has been once respired were to be inspired again,—would not exceed 266.666 cubic feet.

(In this computation, however, no allowance has been made for such atmospheric changes as are produced by the exhalations from the skin, which in crowded appartments are found to be particularly obnoxious.)

Mr. Coathupe's still more recent experiments upon the respiration of deteriorated atmospheres furnish the following results:—

1st. That a lighted taper, when confined within a given volume of atmospheric air, will become extinguished as soon as it has converted 3.046 per cent. of the given volume of atmospheric air into carbonic acid.

2nd That an animal when confined in the residual air in which the taper has become extinguished, will not expire until it has by its respiration produced as much carbonic acid gas as will amouut to 10 per cent. of the given volume of such air. Hence the extinction of a light by a deteriorated atmosphere is no proof of the incapability of such an atmosphere to support respiration for a limited period.

3rd That when animals are confined in given volumes of pure atmospheric air, they generally become comatose upon the formation of 10.42 per cent. of carbonic acid, and they can then be restored to life.

4th. That when animals are confined in given volumes of atmospheric air until they expire, the residual air contains—if from "warm-blooded" 12.75 p. c. carb. acid. And f from "cold-blooded" animals, 13.116 p. c. i b. acid.

5th Independently of the conversion of so large a portion of the oxygen of the air into carbonic acid, there is always a very considerable portion of oxygen actually absorbed or removed, amounting to rather more than 3 per cent. by cold-blooded animals, and to rather more than 5 per cent. by warm-blooded animals.

The original quantity of nitrogen will remain constant, or suffer but the least appreciable diminution.

Rarity and Weight of the Air.—The density of the air is in proportion to the force which compresses it, or to its elasticity, or inversely, as the spaces within which the same quantity of it is contained.

If altitudes be taken from the earth's surface in arithmetical progression, the density of the air decreases in geometrical progression.

According to the acurate series of experiments published in the British Association Reports, the weight of 100 cubic inches of air, Bar. 30, Therm. 32°=32.795 grs.

The pressure of the air on the earth's surface is, at a mean rate, equal to 15 lb. on the square inch; it is therefore capable of supporting in a vacuum a column of quicksilver 29½ inches high, or a column of water 33 feet.

A cubic foot of air weighs 1.2 ounce; hence a column a mile high and one inch base, weighs 43.2 ounces, and 15 pounds is equal to 5.6 miles; it diminishes in weight as the height, and in elastic force or reaction as the bulk or cube of the height, both together as the biquadrate or fourth power; but in density as the logarithm of the height. Hence at 44 miles, where the atmosphere ceases to reflect the light, its density is considered only as a 10,000th of that at the surface.

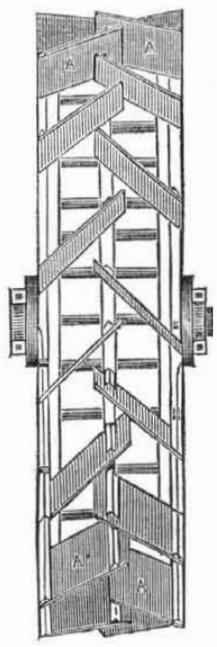
Rule to Determine Height of Barometers Approximately.—As sum of top and bottom readings: difference :: 52000: altitude in feet.

Recent experiments show that the increase of temperature in mines is 1° for from 45 to 50 feet descent.

History of Propellers and Steam Navigation.

[Continued from page 312.]

Fig. 62.



The placing of a single paddle obliquely on the face of the wheel, is something which has not been thought of by a single individual, but by quite a number. The paddle wheel here presented was fairly tried on a very fine steamboat, called the Superb, built in Glasgow, Scotland, a place famous for steamship-building, and for experiments in marine navigation, and was thought for a while to be superior to the common paddle wheel, but on the whole, after a fair trial of its merits, the old wheel towered above it in utility, and laid it on the shelf.

Instead of the floats A A A in this paddle wheel, being placed parallel to the shaft, they are fixed at a considerable angle to it, and in alternate opposition to one another, each float projecting beyond that opposite to it. By placing the floats in these relative positions, the amount of direct resistance upon the water does not seem to be diminished; while the oblique direction in which the floats enter into and emerge from the water, as well as the water being drawn as it were into the interior of the wheel between the floats, there is less of that back lift and dashing of the water against the sides of the vessel, than there is with the common paddles.

The principal advantage—and we consider it a very important desideratum which this paddle seems to possess—is the diminution of tremor in the vessel.

These who have been patient observers of the articles exhibited at the Fair of the American Institute, will not fail to recognize a strong family resemblance in this wheel to a stock model of one exhibited for more than a single year there. The only difference between the two is in favor of this older one, which frees itself from a central weight of water, whereas the model spoken of had its oblique paddles joined together at the centre, forming a *rhone*, to lift the water like a scoop—to increase the very evil it was designed to obviate.

Printers' Types.

Put into a crucible 10lbs. of lead, and when it is in a state of fusion, throw in 2 lbs. of antimony; these metals in such proportions form the alloy of which common printing types are made. The antimony gives a hardness to the lead, without which the type would be speedily rendered useless in printing press. Different proportions of lead, copper, brass, and antimony, frequently constitute this metal. Every artist has his own proportions, so that the same composition cannot be obtained from different foundries; each boasts of the superiority of his own mixture.

Small Types and Stereotype Plates.—Melt 9 lbs. of lead, and throw into the cruble 2 lbs. of antimony, and 1 lb. of bismuth; these metals will combine, forming an alloy of a peculiar quality. This quality is expanded as it cools; it is therefore well suited for the formation of small printing types (particularly when many are cast together to form stereotype plates,) as the whole of the mould is accurately filled with the alloy; consequently there can be no blemish in the letters. If a metal or alloy liable to contract in cooling were to be used, the effect of course would be very different.

Another.—The proprieters of different foundries adopt different stereotype plates.—Some from an alloy of eight parts of lead, two parts of antimony, and one of tin.

Mode of Casting.—For the manufacture of stereotype plates, plaster of Paris, of the consistence of a batter-pudding before baking, is poured over the letter-press page, with a brush. It is then collected from the sides by a slip of iron or wood, so as to lie smooth and compact. In about two minutes the whole mass is hardened into a solid cake. This cake, which is to serve as the matrix of the stereotype plate, is now put upon a rack in an oven where it undergoes great heat, so as to drive off all superfluous moisture. When ready for use, these moulds, according to their size, are placed in flat cast iron pots, and covered over by another piece of cast iron perforated at each end to admit the metalic composition intended for the preparation of the stereotype plates.—The flat cast iron pots are now fastened in a crane, which carries them steadily to a metallic bath, or melting-pot, where they are immersed and kept for a considerable time, until all the pores and crevices of the monld are completely and accurately filled. When this has taken place, the pots are elevated from the bath by working the crane, and are placed over a water trough to cool, gradually. When cold, the whole is turned out of the pots, and the plaster being separated by hammering and washing, the plates are ready for use; having received the most exact and perfect impression.

Mesmerism.

A writer in the last number of the Edinburgh Review expresses the conviction that though mesmerism is not plausible, yet it is susceptible of producing proofs which have been deemed satisfactory to many men of high moral and scientific character. The Review also admits that the number of believers in mesmerism among scientific men is increasing; and he thinks the subject is assuming an importance which must, at no distant day, occasion a formal inquiry, "in which its errors, which are probably many, will be separated from, what we may be sure are also many, its truths."

The Whitney Railroad.

The Committee of the U. S. on Roads and Canals, have made a report, strongly urging the adoption of Mr. Whitney's plan of a Railroad to the Pacific. Mr. W. proposes that the terminus of the road shall be Lake Michigan. The committe endorse this plan, because it will afford the shortest practicable route, will find its own means, and thus relieve the government from the burden of the cost, and because they deem no other route practicable.

LITERARY NOTICES.

The History of the Decline and Fall of the Roman Empire. By Edward Gibbon, with Notes by H. H. Milman. Boston: Phillips, Sampson & Co.—We have received the fifth volume of this superb edition of Gibbon's work,—one more volume renders it complete, and we can truly say that a more deeply interesting publication is seldom met with. The graphic style of Gibbon's writings have already established them among the fine arts, and no one should allow the present opportunity to pass without securing his work on Rome.

Sartain's Magazine of Literature and Art, July number: Dewitt & Davenport, Agents, Tribune Buildings, New York.—The present numbercommences the seventh volume of this popular magazine, and may truly be regarded as the most beautiful of the series. It contains 16 engravings illustrating the scenes in the life of William Penn, the founder of the State of Pennsylvania, one of which is a portrait of Penn, executed in superb style, by Sartain. The contributions are numerous and of a high order. We notice an article of superior merit, on "Intelligence and Labor," by Dr. J. Orville Dewey; Bayard Taylor also contributes a beautiful poem. The whole number is excellent.

Godey's Lady's Book, July number: Long & Bro. Agents 43 Ann street. This number contains several illustrations, among which are "Bishop White Administering the Sacrament," a very impressive picture, and "The Warning at the Green Spring.' This number bears evidence of having been got up in a hurry, and is much behind, in every respect, the previous numbers since January. Godey, however, seldom falls short of our expectations.

Peterson's Ladies' National Magazine commences its eighteenth volume with the July number. The illustrations are meritorious, and the contributions are marked with sterling interest. This magazine is under the editorial supervision of Mrs. Ann S. Stevens and Charles J. Peterson. The subscription price is $2 per annum: Dewitt & Davenport, agents, New York.

Pathfinder Railroad Guide and Steamboat Journal.—This is a very neat and useful little book, The price is 12 1-2 cents. Every traveller should have a railroad guide.

INVENTORS AND MECHANICS.

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TERMS: Single subscription, $2 a year in advance; $1 for six months. Those who wish to subscribe have only to enclose the amount in a letter.

A PRESENT!

To any person who will send us Three Subscribers, we will present a copy of the PATENT LAWS OF THE UNITED STATES, together with all the information relative to PATENT OFFICE BUSINESS, including full directions for taking out Patents, method of making the Specifications, Claims, Drawings, Models, buying, selling, and transferring Patent Rights, &c.

N. B.—Subscribers will bear in mind that we employ no Agents to travel on our account.

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